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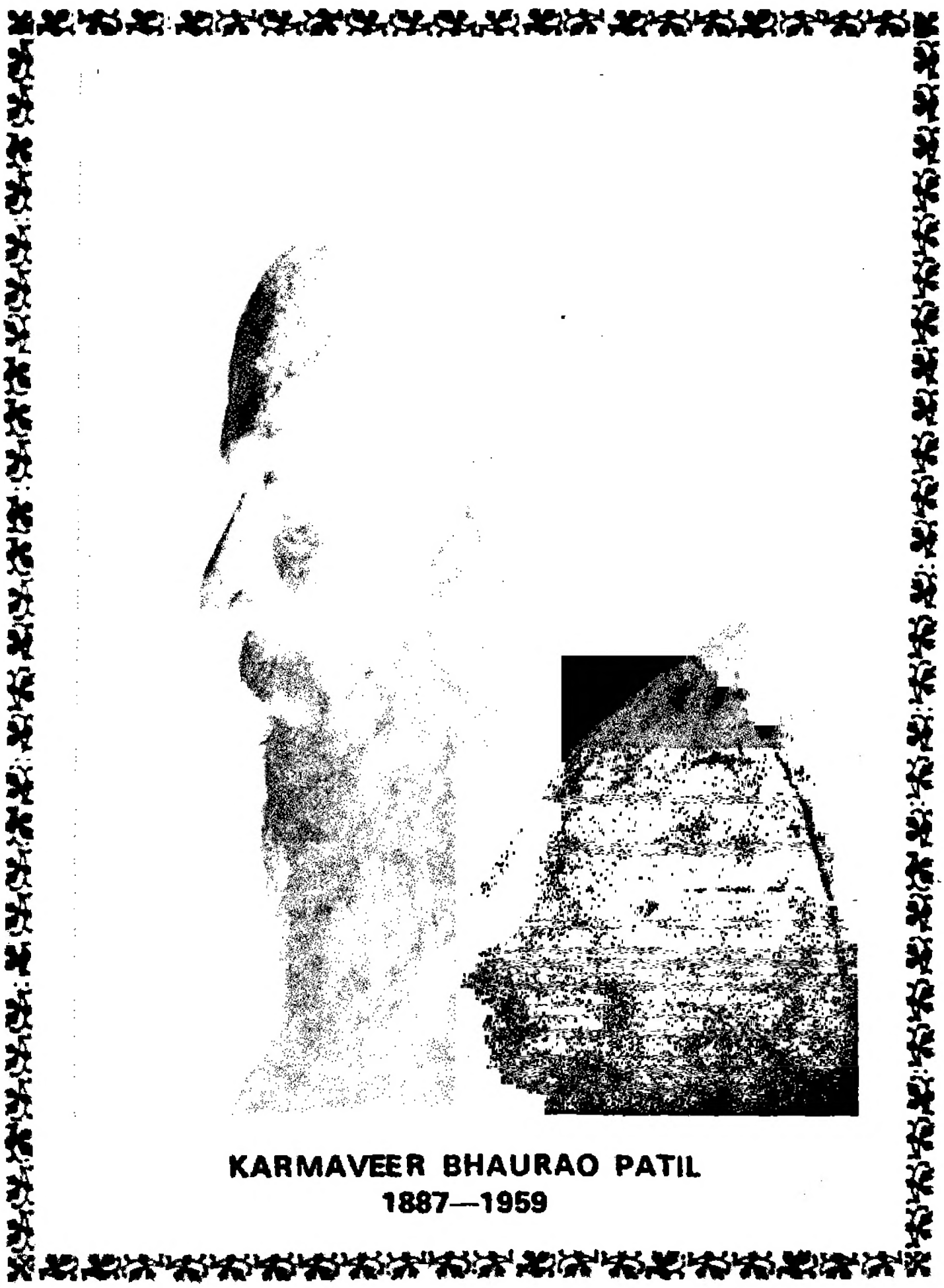

KARMAVEER BHAURAO PATIL
1887—1959

"Education Through Self-help is Our Motto"

—Karmaveer

THE
RAYAT SHIKSHAN SANSTHA
SATARA

(Maharashtra)

Founder : Padma-Bhushan Karmaveer Bhaurao Patil, D. Litt.

Established : 1919 **Registered : 1935**

CONDUCTS

•	**SENIOR COLLEGES** (Including Engineering, Law, Education. Science, Commerce & Arts)	29
•	Secondary & Higher Secondary Schools (Including Technical, Agricultural, Commerce	326
•	Junior Colleges of Education	8
•	Panchayat Rajya Training Centre	1
•	Cosmopolitan Hostels	81
•	Pre-primary and Primary Schools	22
•	Ancillary Institutions — Printing Press, Co-operative Stores, Bank, etc.	41

Students : 2,85,000 **Employees : 12,900**

The Rayat Shikshan Sanstha, right from the beginning has devoted itself to the great task of imparting education to the rural masses, irrespective of caste, creed, sect, with a view to inculcating essential values such as self-reliance, freedom, equality, fraternity, democracy, secularism, emotional and national integration, dignity of labour, etc.

Subhashchandra Bhosale
SECRETARY

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IN THIS ISSUE

Editor :
SUTINDER SINGH

Karmaveer Bhaurao Patil

In dedicating this issue of University News to the memory of Bhaurao Paigaunda Patil, we honour a Karmayogi in the true sense of the term. He had an incisive understanding of the social ills that beset his times. His association with the Satya Shodhak Samaj, Mahatma Phule's movement against ascedency of Brahmanism and social inequalities, brought to him the realisation that lack of education and constructive efforts to mould the minds of children lay at the roots of the social and economic inequality in society. Karmayogi, that he was, he charted his own path to challenge the hegemony of upper castes and for creation of an environment where caste as a habitual pattern of behaviour was not allowed to affect social and other intercourse. He set up hostels for students where he not only laid special emphasis on admission to untouchables but also insisted on simultaneous admission of students of all other castes and classes. The inmates of the hostels were made to live a common family life forgetting traditional caste distinctions. Not only that, he insisted on every inmate of his hostels to do manual work inculcating in them the dignity of labour. By accepting gifts for his hostels, he involved the entire community in his projects, and instilled in them a sense of dignity that they were not accepting charity by sending their wards to Bhaurao's hostels for free board and education.

The hostels were set up in big towns in Proximity of the schools and colleges where students from rural areas converged for studies. The bulk of the rural population was thus untouched. To effect total social transformation, Bhaurao resolved to carry education to the door-steps of the rural population. He set up institutes for training of teachers for primary schools and as the teachers became available, the opening of voluntary primary schools in rural areas followed. Bhaurao set up as many as 578 primary schools which were later taken over by the Government. He then turned his attention to secondary and higher education. In his life time Bhaurao set up 36 hostels, 6 training colleges, 108 secondary schools and 3 colleges of higher education and some ancilliary institutions. His instrument for this achievement was the Rayat Shikshan Sanstha that he set up in 1919. Bhaurao was endowed with the gift of creating a band of workers devoted to his cause, and this alone accounts for the continued success of the Sanstha which today maintains 8 training colleges, 319 secondary schools, 29 colleges and 83 hostels besides other ancilliary institutions with over 2.5 lakhs student beneficiaries.

It was his programme of mass education of rural people that brought him close to the community that bestowed on him the title, Karmaveer—a man of action, which he truly was. The Government also honoured him by awarding Padama Bhushan in recognition of his contribution to rural education. There were numerous other honours that he picked up on his way to glory. But the most enduring tribute to his monumental work are the hundreds of institutions run by the Rayat Shikshan Sanstha. □

SOME TRIBUTES

TO

KARMAVEER BHAURAO PATIL

"Karmaveer Bhaurao Patil lived in the service of the motherland. Through his selfless work he ranks among the builders of modern Maharashtra and modern India."

—Prime Minister, Rajiv Gandhi

"One remarkable feature of Bhaurao's personality was his success in creating a band of workers who have devoted their life to the cause of rural education."

— Shri Yashwantrao Chavan

"It is an unique institution and deserves support of every man who cares for the best interest of this nation. Every credit is due to my friend Bhaurao Patil."

—Dr. B.R. Ambedkar

"There is need of continuing the task begun by Karmaveer Bhaurao Patil of inculcating patriotism and communal harmony among the children of weaker section of society."

—Dr. Balram Jakhar
Speaker, Lok Sabha

"Karmaveer Bhaurao Patil has sacrificed his whole life in raising this grand superstructure in which literally hundreds of poor and backward boys and girls have found their salvation. Founder has paid special attention to the students from the scheduled castes, many of whom have beeen sent to foreign countries for education."

—Dr. Punjabrao Deshmukh

"Karmaveer Bhaurao Patil was deeply distressed by the misery and injustice that he saw round him, and his chief pre-occupation throughout his life was to help the depressed and the poor to improve their conditions."

—Dr. D.R. Gadgil

"I have had many opportunities of meeting Karmaveer Bhaurao Patil and have been impressed with his vision and resourcefulness and his remarkable achievements in spreading education in the countryside."

—Dr. John Mathai

DIGNITY OF LABOUR

Karmaveer Bhaurao Patil's Philosophy of Education

P.G. Patil

Karmaveer Bhaurao Patil (1887-1959) was a great educationist and national integrator of the 20th Century. He had his secondary education at Kolhapur where he came into close and fruitful contact with Rajarshi Shahu Maharaj. He was deeply influenced by the Maharaja's deep love and concern for the all round uplift of the masses in his State. The Maharaja had opened a number of Boarding Houses for students of various communities at Kolhapur. He also tried hard to eradicate untouchability in his State by precept and practice.

Karmaveer Bhaurao left his school in the Pre-Matric class. Later he worked in collaboration with the Kirloskars, the Ogles and Mr. D.B. Cooper, but somehow this work didn't interest him long. He left Cooper in 1922 and set up home at Satara. He had made a tryst with destiny to carry the torch of education to the nooks and corners of Maharashtra. His first step was the starting of a cosmopolitan Boarding House (Chh. Shahu Boarding House) at Satara in 1924. It was christened at the hands of Mahatma Gandhi in February, 1927. Gandhiji was deeply impressed by the cosmopolitan nature of this Boarding House as also by the Karmaveer's bold experiment of "Earn and Learn."

Karmaveer Bhaurao advocated 'education through self-help' or 'Earn while you Learn'. All the students in his Boarding House had to do some manual labour on the Boarding farm at Dhanini's Garden at Satara. The students grew crops and vegetables there. The crops were tended lovingly by the boys. There were two wells in the Garden which supplied sumptuous water to the crops. They also looked after the cattle in the farm. Each student had to put in at least a couple of hours' labour in the farm every day.

The boys constructed simple huts on the farm where they lived. Boys from all castes and creeds were admitted to this Boarding House. No servant was employed here. All the work was done by the students themselves. The boys used to cook their food themselves. There were different clubs which used to cook by turns. It was simple, spartan fare.

Thus they lived together, cooked together and dined together. An atmosphere of happy camaraderie prevailed everywhere. Gandhiji and Sayajirao Maharaj saw this novel experiment personally and paid glowing tributes to Karmaveer Bhaurao for his bold initiative and resourcefulness.

The boys thus earned their education by the sweat of their brows. Begging for food was strictly eschewed. The boys imbibed the valuable lessons of selfhelp, self reliance, and dignity of labour.

The Maharaja Sayajirao Free & Residential High School was started at Satara in June, 1940. The Manual Labour Scheme was operated here in right earnest. The late Hamid A. Ali, the then Collector of Satara, on the eve of his retirement, asked Karmaveer Bhaurao for a choice gift. Anna asked him to donate to him the hill-side at the foot of the historic Ajinkyatara Fort. The boys from the High School worked here in the evenings. They levelled the hill-side in terraces. To-day the 'Samadhi' of the Karmaveer is situated here, and the Central Office of the Sanstha stands here on a commanding height. The Manual Labour Scheme is seen at its best here.

The Chh. Shivaji Free & Residential College was started at Stara in June, 1947. No fees were charged but the students had to put in 4 hours manual labour every day in return for which they got their College education as also their meals.

This novel experiment in higher education was conducted by Karmaveer Bhaurao Patil for 4 years, costing the management a net deficit of about Rs. 2.00 lakhs. From 1952 day scholars were admitted here, but the Hostel students continued to earn their education the hard way. If they put in 4 hours work daily, they would have earned their education as also their meals free.

The boys had to work in the College Vegetable garden; sinking a well for irrigation near the College, construct a swimming tank and assist the masons on the College buildings as unskilled labourers. Some sturdy boys broke the stones and prepared the road-

metal (धातू) A boy was paid Annas three per hour. He was given a Loan Scholarship (Mrs. Laxmi Patil Fund) of Annas 3/- and the College gave him Annas 3/- as fee concession. Thus he earned Annas 9/- per hour of work. Normally the boys worked for 4 hours a day and 6 hours on Saturdays and Sundays. This enabled them to earn their meal charges and College education too. No boy should be deprived of higher education because of his poverty. 'Rub your hands with the land. Earn your education by the sweat of your brow' was the message of the Karmaveer.

That is why his appeal to the Government was : 'Give me wasteland and I will turn it into the best land'. Hence he was always keen to acquire plots of land near his Schools and Colleges where his students could work and earn their education. The Bombay Government had donated about 100 acres of alluvial land in the Devapur Tank-bed in the Man Taluka of Satara District where the students of the Shivaji College worked in the vacations and grew foodgrains enough to last them for the entire year. Karmaveer Bhaurao succeeded in enlisting the cooperation of the Tata Board of Rural Reconstruction, and with this help built up a network of Schools, wells, wind mills, a mobile dispensary, animal husbandry etc. This useful work is continued here even today in the nine adjoining villages located in the chronic famine prone area.

A Sheep breeding farm was also started at Pingli Block in this area.

Chhatrapati Shahaji Maharaja of Kolhapur donated a spacious campus of 130 acres alongwith the buildings therein to the Rayat Shikshan Sanstha in 1949-50. Karmaveer Bhauro Patil started a Primary Training College, a Secondary School, both residential and a Hostel for the Juvenile Delinquents. The students had to put in manual labour for a couple of hours every day. Jowar, bajra, groundnuts etc., were grown here, and they were used for the School kitchen. Thus we see that Karmaveer Bhaurao Patil always had the principle of self help, self reliance and dignity of labour firmly embedded in his heart.

He was influenced by Mahatma Gandhi's Wardha Scheme of Education. But it may be stated that he had operated the Manual Labour Scheme in his Shahu Boarding House—some 10-12 years before the inception of this Scheme. Sayajirao Maharaj observed while visiting the Boarding House in April 1933, "Not even a Maharaja would be able to run such an ideal Boarding House. No praise is too great for his work". And Gandhiji, nine days before his cruel assassination in New Delhi wrote in his autographed measage, "Shri Bhaurao Patil's educational work is a veritable pillar of fame unto him."

Karmaveer Bhaurao conceived and implemented his Scheme of 'Earn & Learn' years ago. The Bombay Government introduced its EBC Scheme from June 1959 (concession in fees to children whose parents' annual income was less than Rs. 900/-.) The late Shri Balasaheb Desai was the then Education Minister. He was a close friend and admirer of Karmaveer Bhaurao Patil. When Anna was lying on his death bed in the Sassoon Hospital, Poona, early in 1959, he proudly explained to him his Government's new EBC Scheme. He expected a pat on his back from Anna. But instead of a pat, he received a severe rap on his back. Said the anguished Karmaveer, "Balasaheb, never give anything as a free gift. It is never appreciated. It is likely to be misused. And if you give this EBC concession to students, they will tend to shirk hard work. Your Scheme will wreck my manual labour Scheme. Under my Scheme, only those who put in manual labour are given free education. I don't approve of your Scheme at all. Kindly excuse me".

Anna's words proved prophetic. The EBC scheme has almost supplanted the Manual Labour Scheme in the Colleges of the Rayat Shikshan Sanstha. During the last 28 years, it has been our sad experience that the number of students availing themselves of the Manual Labour Scheme has dwindled steadily. Today Shivaji College, Satara and Dhananjayrao Gadgil College of Commerce, Satara have about 40 students each enrolled in this scheme. The number of students in the College rolls is more than 2500 each.

In addition to manual labour scheme, provision was made for part-time employment of some boys in the College/Sanstha's Central Offices, in the Press, etc. A modest dairy and a flour mill are run by the students of the Shivaji College. Some boys also work as unskilled labourers on the College/Hostel buildings. I am happy to say that this manual labour has not affected the academic progress of the students. Rather, it has acted as a spur to greater endeavour on their part. Many of these students who have come up the hard way are working today as Life Members, Principals, Professors, Head Masters and Teachers in the Sanstha's Schools and Colleges. Today the Sanstha runs 326 High Schools and 29 Colleges affiliated to

Bombay, Poona and Shivaji Universities. The total annual budget is Rs. 34 crores.

The Sanstha had acquired what is known as the Wadala Farm—about 160 acres—in the Nagar District. Students from the neighbouring High Schools of the Sanstha used to work on this farm and thus earned their education. Recently an ambitious Horticultural Project is being operated on the campus of Annasaheb Awate College at Manchar in the Poona District. Fruit-trees are planted on an arid mountain-side area of about 50 acres donated by the Maharashtra Government to the College. The experiment was started by Principal P.A. Panwal with the cooperation of his colleagues and students.

The Karmaveer's novel experiment of self reliant mass education had attracted the attention of many people during his life time. He called on the late Madhavrao Scindia of Gwalior and requested him to donate his ancestral palaces at Jamgaon and Shrigonda in the Ahmednagar District to the Sanstha for its educational work. The Maharaj was pleased to donate the said palaces alongwith the outlying lands—about 1,300 acres to the Sanstha. Today we run a High School, a Hostel at Jamgaon and a full fledged College also at Shrigonda. The students are encouraged to put in manual labour here too.

Karmaveer Bhaurao's insistence on Manual Labour had a salutary effect on the minds of the pupils. It was the common experience of many parents in rural areas that their wards taking English education in Schools in the Cities (and also in rural areas) developed a liking for white-collar jobs in Government service and a dislike for manual work and contempt for the Harijans who usually were condemned to do such despicable jobs. Karmaveer Bhaurao wanted to fight this evil effect of the English education and of the hierarchical society in India. He also wanted to develop a sense among the Hostel inmates that work of any kind, however low or dirty has a dignity of its own as it teaches a sense of equality of all human beings. Secondly, the doing of such low and mean manual labour developed the students' moral courage and confidence that he would be able to earn his livelihood under the most distressing circumstances. It also inculcated in the pupils dignity of labour and self reliance and self respect, so valuable in his later career.

Karmaveer Bhaurao had read a biography of Booker T. Washington in his youth and was deeply influenced by Washington's noble experiment of 'Earn and Learn' at his Tuskegee Institute. Booker T. Washington emphasised education of the head, hand and heart. Thus we see a continuous line running from Booker T. to Bhaurao P.

Thus 'Education through Self help' may be regarded as Karmaveer Bhaurao's greatest contribution to the philosophy of applied education in our country.

Karmaveer Bhaurao' philosophy of education and the means he used for creating a unified India Society seem to be better interpreted by Paulo Freire, the Brazilian educationist, in his 'Pedagogy of the Oppressed ! Freire describes the situation in which a radical humanist—liberator has to play his role as an educationist. Karmaveer Bhaurao, like Freire, knew that the 'wretched of the earth' were immersed in the Indian variety of the 'Culture of Silence'. Karmaveer Bhaurao's method of bringing about a transformation of society in his day was what Freire calls 'Praxis—Reflection and Action', the ultimate aim being the liberation of the weak and the dispossessed seed—by stopping the dehumanization of society by the oppressors.

Through the unity and organization of the younger generation of all castes and creeds, Karmaveer Bhaurao brought about a Cultural Synthesis. He was like an Indian Christ serving the downtrodden in our villages.

It may be truly said of Karmaveer Bhaurao Patil that 'art of dust he made us into men', 'Self help, Self respect, Self study and Self liberation' was his four fold programme of action.

Prof D.G. Karve, Vice-Chancellor, University of Poona : Court Meeting of the University.

'I am referring to Karmaveer Bhaurao Patil as our Guru with deliberate intent. His role as master of educationists did not lie in teaching any subject. It lay in the much higher region of instructing the teachers by precept and example, in the purpose and mission of education. This is the message of the whole life of Karmaveer Bhaurao whom this University considered it a privilege to count among its Doctors.'

Dr. D.R. Gadgil on Karmaveer Bhaurao Patil's mission (from his Foreword to Dr. Matthew's life of Karmaveer Bhaurao Patil).

"For the country at large his work is valuable at least in two important directions. Firstly, he has given practical demonstration over years of a fruitful, perhaps the only effective approach in the long run, to the key problem of a society dominated by the hierarchy of caste. To denounce caste or to deny caste is easy enough; in certain circles, in closed coteries or interest groups, it may even appear as if caste has, at least temporarily lost its influence. All this is superficial and self-deceiving. What is important is to recognise it for the living and potent force that it is and to bring up the younger generation, at least partly in an environment where they see caste purposefully and habitually ignored; it is only such open and deliberate effort conducted over a length of time that could slowly eradicate the conscious and the unconscious effects of caste on our society. It is a great thing to have had the demonstration of these efforts of Karmaveer Bhaurao and to realise, in particular, that they have been made in the rural mass medium which ultimately is the medium in which all our efforts have to be proved.

Secondly, Karmaveer Bhaurao has shown how it is possible to build, what is virtually, a system of rural education from the primary stage to the University, which, on the one hand, requires no more State aid or assistance than is available today, and which not only retains the educand in the country environment but also inculcates in him habits of manual work and self help. It is generally agreed that the main characteristics required in an Indian System of rural education are precisely those which have been prominent in Karmaveer Bhaurao's pattern. And the great merit of his achievement is that it has been accomplished with no special advantages of money or birth or power, and that it has shown itself capable of being replicated in varying circumstances."

Karmaveer Bhaurao was essentially a practical idealist. While not given to theoretical formulations he had an uncanny ability to find practical solutions to each problem and yet make no compromises which will take him away from his main purpose. In Maharashtra he is today the personal embodiment of a great tradition holding forth a message of vibrant hope. □

Role of Karmaveer Bhaurao Patil in Social Transformation

S.D. Patil

On 9th May 1988, the Government of India issued a Postal Stamp in honour of a great Social Reformer and the Educationist of Maharashtra, Karmaveer Bhaurao Patil. The occasion was the Birth Centenary of the leader who lived between 22nd September 1887 and 9th May 1959. The gesture, thus, was commemorative.

This is, of course, not the only honour the man received in recognition of his services. In past, he was felicitated and honoured in several ways and by several organisations including the governmental and semi-governmental institutions. Among these honours 'Karmaveer'—the Hero of Work—was, perhaps, the greatest title conferred on him by the people of Maharashtra. He was also honoured with President's award "Padma Bhusslan" and D. Litt. (Honoris Causa) by the Poona University. He is however lesser known outside Maharashtrh. It is hoped this will be partially offset by the issuance of the commemorative stamp in his honour and this special number of *University News* which will familiarise the University community all over India with the thoughts and deeds of Karmaveer.

Karmaveer Bhaurao Patil was born on 22nd September 1887 in a small village in Kolhapur District of Maharashtra State. It is interesting to note here that this man, who later turned out to be a renowned educationist and radical social reformer, was born in a hard orthodox family of Jain community where religion was considered to be extremely sacrosanct and all beliefs, rituals and customs emanating from it had almost numbed the faculty of reasoning in the minds of the community. Bhaurao, however, refused to bow before the religious dictates. He fought against the caste based distinctions and such other fanatic customs which were beyond reason or logic.

"Some people are born great" it is said, and Bhaurao belonged to that class. This is because the progressive and reformist stance of Bhaurao was evident right from his school days. Although he was born and brought up in the orthodox culture and during schooling he was kept in a segregated Jain Hostel, where administration and rules strictly conformed to the traditional religious and communal faith and following, he seemed to have been totally out of it like oil immiscible with water. In fact, he was so firm in his progressive convictions even in his young days that he holdly refused to obey the rules which were based on communal considerations. Actually, his revolt against such rules cost him his seat in the Hostel—he was expelled.

Bhaurao believed that the genesis of the social evils, such as, inequality, caste-based distinctions between man and man, undesirable traditions and superstitions lay in the ignorance of the masses. He, therefore, decided to devote his entire life for the cause of emancipation of masses through education and founded the Education Society which he named as "The Rayat Shikshan Sanstha". He realised that education was the monopoly of the few affluents in the Society and very large section of the Society, inhabiting the rural areas, was totally deprived of the opportunity. Hence, he started and conducted the mission of taking education to those whom it never used to reach –to the village folk.

The policies Bhaurao planned and implemented in the conduct of this mission and entire efforts he put in to reach the goal go to reveal the mind and mettle of this man, so also, the philosophy of education that he contemplated. They show, how he was uneasy over the poverty of the masses, how he was pained to see the discriminations in the Society, how he was bent upon removing the artificial barriers between man and man, or one social group and the other. In short, he was keen to effect the social transformation which he rightly thought could be achieved through education of the vast ignorant section of the Society—the masses. But, the education he contemplated and pursued was not the ordinary routine type of exercise, as he was aware of the shortcomings in the system of education then prevailing. The education he envisaged was for giving ability to earn, for defeating traditionalism through intellectualism, for removing inequality by advocacy of equality and for condemning white-collarism by teaching the dignity of labour. He, therefore, prepared the model of his institution to suit these objectives.

Rayat Shikshan Sanstha

Bhaurao began his mission by starting his educational society, the Rayat Shikshan Sanstha, in 1919 in a small village "Kale" in Satara District. Soon, however, in 1924 he shifted the headquarters of his Sanstha to the District headquarters at Satara. In the beginning the nature of work undertaken by the Sanstha was not that of an institution that imparts education, but, of running a Hostel for the village boys coming to Satara for education. In the year 1924 there were just 4 inmates in the Hostel. But, their caste wise classification speaks a lot about the philosophy and the mettle of the founder. Of these 4 inmates there were 2 Maratha, 1 Jain and 1 Mahar (untouchable) by caste. Later in the year 1927, this Hostel was named after the name of the then King of Kolhapur State—Chhatrapati Shahu Maharaj, who was known to be a staunch advocate of social equality and was a great promoter of Education for the backward communities. The naming ceremony was graced by the Father of the Nation, Mahatma Gandhi. Mahatmaji was then so much impressed by this work that he praised Bhaurao in the words which deserve quoting here. He said, "Bhaurao, you are doing something here which I have not been able to do at Sabarmati, as yet." Thereafter Mahatmaji, in appreciation of the work of his Sanstha, used to give annual financial assistance from the funds of Harijan Sevak Sangh for many years.

In 1935, Bhaurao registered his Sanstha under the Societies Registration Act 1860. Chh. Shahu Boarding (Hostel), started with just 4 inmates, gradually, grew both in number of additional inmates and also with the additions in the castes living together. The first Triennial Report of this Hostel was published in 1939. One paragraph of this Report is worth reproducing here as it highlights the aims of the Sanstha and its attempts to achieve them. The para reads : "The Chhatrapati Shahu Boarding, the unique in India, is a model institution which is blotting out and effacing the most un-natural distinctions created between man and man and, thus, has been paving the way for real unification of India. Out of 177, the present number of inmates of the Boarding, 57 are Marathas, 21 allied castes, 2 Brahmins, 6 Jains, 13 Muslims, 39 Mahars, 16 Mangs, 15 Chambhars, 5 Ramoshis, 2 Dhors and 1 Nat. All these children are brought up as children of one family, staying, dining, working and living together a disciplined life."

This experiment of Bhaurao was not only unique, but, it was revolutionary as well, as it was an open challenge to the traditionalism and casteism that had intoxicated the Indian Society, almost to the state of madness. There may be few others who were also uneasy over such sorry state of affairs in the Society but Bhaurao alone could have the courage to wage an open fight against it.

The most touching part of this experiment is that all the boys coming to his Hostel were not coming on their own but many of them were made to come by Bhaurao himself. Bhaurao used to move from village to village, select and collect the boys from the poor families of different communities, persuade their parents and bring the boys to the Hostel for their education. In short, to collect the dusted starving children in rags from villages, clean them, feed them, educate them and, finally, win them the place in the class of intellectuals, social workers or higher-ups, had been his programme. The boys so collected were of various castes and colours—from untouchables to Brahmins—and they were made to live a collective life of one family in the Hostel. Under such equality-prone scheme how can one expect the caste-based distinctions or unrealistic individual inequalities to survive at all ? And that is why one has to say that the work of Karmaveer Bhaurao Patil for the cause of social transformation was radical and revolutionary.

Another equally important feature of this Hostel was that the inmates were made to live on self service. They used to clean their rooms and verandas, wash their own clothes, prepare their own food and eat turn by turn on the principle of division of labour. The dignity of labour was, thus, inculcated in them right from the childhood.

The Sanstha, during the course of time, opened additional Hostels on the lines of Chhatrapati Shahu Boarding. Besides these Hostels, Bhaurao also started the Hostels for Court-committed boys and the destitute children.

Upto 1935, the Sanstha had a limited sphere and restricted nature of work of running Hostels for students and inculcate in them the values involving humanity, fraternity, equality and dignity of labour. However, Bhaurao was quite aware that this work had its limitations. He knew that his Sanstha was till then helping only those few needy students who could afford to come to cities for education and the large bulk of rural masses still remained unattended either

because of thei' poverty or on account of their indifference to education, born out of their traditional ignorance. He, therefore, decided to take education to the huts of masses and arouse in them the interest for education.

Voluntary Schools

In 1931, the percentage of literacy in Maharasthra was just 8%. Mass education atleast on primary level was, therefore, the need of the day, and the opening of primary schools on a large scale in villages was the remedy to meet this need. But, the difficulty was the shortage of adequate number of primary school teachers to work in villages. Bhaurao, therefore, started, in 1935, one Training College at Satara to train the primary school teachers and it is running till today in the name, "Mahatma Phule Training College". This was the first venture of Bhaurao's Sanstha in the actual imparting of education. Later on, the Sanstha opened additional Training Colleges to train more and more primary school teachers to meet the need of village schools. "Produce teachers on one front and open the primary schools in the villages on the other front" was, then, the campaign undertaken by this great leader with utmost devotion and zeal.

To open the schools in villages was not an easy task then. There were no roads, no means of communication to reach the villages. Karmaveer had to tread plains, hills and valleys and he did it bare footed. He had to convince the village folk of the importance of education and to collect funds from them to open and run schools with local cooperation. And he did it successfully. Although the task was extremely difficult, Karmaveer Bhaurao achieved tremendous success in this mission with sheer devotion and perseverance. By such toiling efforts he could open as many as 578 voluntary schools in the different villages. Amazing work indeed !

Secondary Schools

The education at primary level was not adequate enough to raise the standard of village life in the fast developing world. It needed secondary as well as higher education to create confidence and competence in them. He, therefore, took next step of opening secondary schools in villages. The first such school was started in 1940 and it was named after Maharaja Sayajirao Gaikwad, the then King of Baroda. It is noteworthy here that Bhaurao's Sanstha preferred to open such secondary schools in rural areas and not in urban places. Here also, he received ample response from the people. Bhaurao could open as many as 108 secondary schools during his life time. Another remarkable achievement !

Higher Education

Bhaurao's next step was to bring the portals of higher education within the reach of the poor masses; and starting of the College at Satara in 1947 was the first venture in this direction. It was not, again, the ordinary type of institution. It had to suit his philosophy. At its commencement, therefore, he announced, "This College will be free and residential—free because the poor village students won't afford to come here by paying fees, and residential, because we will like to work on them and develop in them the social awareness and the sense of dignity of labour. We do not want to produce white collars from this College." It was, again, an amazing announcement. Amazing because the people then thought that it was an impracticable idea. But, Bhaurao's resolute will won't deter him from any programme or project, practicable—impracticable, which, he thought, would serve the cause of the upliftment of the downtrodden. He, therefore, implemented the scheme at least initially for some years. Bhaurao opened two more Colleges before taking final breath.

Education through Self help

Education based on manual labour was the part of Karmaveer's philosophy of education. No student should be denied the opportunity of education on account of his poverty. Karmaveer, therefore, introduced the novel scheme in his system—"Education Through Self Help". Karmaveer had dual intention in advocating this philosophy. Self supporting education for the needy student is the one, and the inculcation of the sense of dignity of labour and thereby helping to reduce the traditional gulf between the white collared educated elite and the working class in the Society, on the other. "You come, you earn and you learn" was, in brief, the nature of this Scheme. The poor students coming for education were made to support their education by working in this scheme. The work involved the manual labour in agriculture, gardening, building construction, road repairs, sweeping, cleaning and other menial work in Schools, Colleges and Hostels. The scheme proved to be a boon to the have nots, as they used to come without a

farthing in their pocket and leave with University Degree in their hands.

People's faith in Bhaurao was so complete and deep that the Rayat Shikshan Sanstha, which he founded, could profusely flourish even after his death, which is evident from the present figures of its branches, with 8 Training Colleges, 326 Secondary Schools, 29 Colleges, 81 Hostels and several other ancillary institutions with student beneficiaries numbering about 2,70,000.

Spheres other than Education

Although Bhaurao Patil is mainly known as an Educationist of great vision, his other contributions to the social transformation is equally distinguished.

He was a fervent follower of Mahatma Jyotirao Phule, the great Social Reformer of 19th Century, and an active worker of his organisation, "Satya Shodhak Samaj". The movement of Samaj was aimed against social discrimination, traditionalism, religious ritualism, domination of upper communities over lower-ones and captive state of women. Bhaurao Patil used to move from village to village canvassing for the movement of Satya Shodhak Samaj, attending its gatherings and giving roaring speeches thereat.

Fighting for the removal of untouchability and also for the rights of the un-privileged and under-privileged was another part of Bhaurao's life's mission. He was, naturally, associated with several organisations engaged in the eradication of untouchability. Even, the then Bombay Government had nominated him as the Member of the Advisory Board for Backward Class Welfare and also had recognised his Sanstha as one of the voluntary agencies making efforts to eradicate the evil of untouchability. *Karmaveer used to hold gatherings in the rural areas,* conduct social and cultural centres and social workers' training camps to help this cause.

The poverty of rural people was also found to have engaged the attention of Bhaurao Patil as he seemed to have worked for the economic improvement of the rural people, through teaching the farmers the modern techniques in agriculture, forming cooperative societies, etc.

Thus, Karmaveer Bhaurao Patil was a complete leader endowed with vision, compassion, courage and drive. His contribution to changing the face of rural Maharashtra is unparallelled in history.

KARMAVEER BHAURAO PATIL
A Pioneer Among Pioneers

Devdatta Dabholkar

The 'Uneducated' Educationist

It was a unique occurrence. Four Vice-Chancellors in the State of Maharashtra were almost simultaneously taking charge as Vice-chancellors and paying their heartfelt respects to the memory of Karmaveer Bhaurao Patil. Three of them were the products of the institutions which the Karmaveer had established. As they and many others who later in their careers reached the top positions, were to admit openly on many public occasions: 'If it had not been for Anna (Karmaveer's dear name to his near ones), for ought we know, we would to-day have been tending cows and buffaloes till to-day'. The fourth Vice-chancellor had from his childhood been educated in Satara, the headquarters of Karmaveer's work and had missed joining the Karmaveer's Rayat Shikshan Sanstha as a member of the staff by the margin of a single day. The present author was the fourth Vice-chancellor and while paying his respects to Karmaveer he had said, 'I am proud that I joined the Deccan Education Society—founded by Lokmanya Tilak among others of great renown—but I am also sorry that I missed the opportunity of joining the Rayat Shikshan Sanstha.' The year was 1975.

Four of us were humbly paying our tributes to a man who in this context and by the general standards could be considered to be almost uneducated. Karmaveer got his primary education in the schools of those villages and towns where his father was transferred from time to time as a humble Government servant. When he had finished the fifth standard in the Marathi school he was sent in 1902 to Rajaram High School, Kolhapur where English was also taught. Karmaveer, however, did not do well in his school studies and went up to the pre-matriculaiion class only with difficulty. There is an interesting story about how Shahu Maharaja, the very strongly-willed Maratha ruler of the State of Kolhapur tried to intervene for promotion of Karmaveer (then only a Bhau) to the higher class and of how an humble but equally strong-willed Brahman school-teacher, one Mr. Bhargavrao Kulkarni gave a point-blank 'No' as a reply with the remark : 'I would rather promote the wooden benches in my class than this boy who has secured even out of two hundred marks.'

The matter ended there. This episode is however, interesting for more than one reason. It shows the courage of a simple primary teacher. It also shows the magnanimity of the strong-willed ruler of the State, who could have taken any action against the teacher in those days, and yet appreciated the courage of the teacher and even promoted him. Lastly, but of great importance to our present theme is the failure of the then educational system to educate properly even a boy of the Karmaveer's sterlihg qualities of head and heart and of leadership. Our educational system allowed many blossoms to go to the dust in those days—and who can say that there is any difference now.

The Karmaveer's life mission was to so strive that things could be different from what they were in the provision of educational opportunities for all the under-privileged groups.

An Educationist with a Difference

He tried to do this with a difference. That is why he has carved out a special niche for himself even among other distinguished pioneers in the field of education. And these are not small names by any national or even international standards. Mahatma Jyotiba Phule, Chhatrapati Shahu Maharaj of Kolhapur State, Lokmanya Tilak, Gopal Krishna Gokhale, Maharshi Karve, Dr. Babasaheb Ambedkar are some of those stalwarts. We need not review the work done by them and their other colleagues and peers, but need here concentrate only on the distinctive features of Karmaveer's work. An even more important thing is that most of these distinctive features still remain distinctive to this day.

The Karmaveer's work started in the Ninteen-twenties. All the pioneers in the field of education in Maharashtra, mentioned above (with the exception of Dr. Ambedkar who was very young at that time) had already left their firm footprints in the field, indicating the directions in which one could and should move. What could, therefore, any one entering the field much

later than these pioneers, do in the field of thought and action, beyond imitating them?

The Karmaveer showed that there were problems which still remained untackled and that there was scope for fresh approaches and experiments.

Beyond Caste and Religion

The Karmaveer was a Jain. Even if he had started educational institutions for Jains alone he would have been recognized as an educationist. To this day there are educational institutions which are willy-nilly caste or religion oriented. It indicates the secular national spirit of the Karmaveer that he never for a moment thought of working for a particular caste or religion. The Jains were strict observers of untouchability as the Brahmins but the Karmaveer started his students' boarding house, admitting one untouchable boy and the first triennial report of the Rayat Shikshan Sanstha for the years 1935 to 1938 mentions the number of inmates as 188—of whom 57 were Marathas, 27 Allied Castes, 2 Brahmins, 6 Jains, 13 Muslims 39 Mahars, 16 Mangs, 15 Chambhars, 5 Ramoshis, 2 Dhors and 1 Nat. And not only did they all live together, but they cooked their food together and ate together. Shri Shankarrao Kharat who stayed in such a hostel and in later life became the Vice-Chancellor of the Marathwada University at Aurangabad has given a graphic and touching description of this atomosphere in his autobiography, 'Taral Antral' written in Marathi.

One can realise how big a step this was only if one remembers that even the strong-willed Chhatrapati Shahu Maharaj had to establish caste-wise and region-wise hostels in his own State though he very much desired that there should be common hostels for all. He had given an expression to his feelings of regret in this regard in a welcome speech delivered on the occasion of the visit of the then Governor of the Bombay Presidency to Kolhapur, in the year 1920.

This close living together and the approach of the Karmaveer's institutions made an impress on the young minds of the students. The present author can bear some testimony to this. About fifteen years back there were riots in Bombay among the Scheduled caste groups and the non-scheduled caste groups. The riots took place in the Worli area of Bombay and are generally known as the Worli riots. The present author worked as the chairman of a non-official Committee that had been appointed to investigate into the causes of this riot. The Committee then had responses from witnesses which indicated that people coming from Satara district had generally not taken part in these riots as they carried an impress of the Karmaveer's non-caste approach.

Mahatma Gandhi was impressed by this approach from the early days of the Rayat Shikshan Sanstha. He found time, therefore, to visit and bless the institution as early as in 1924. That Gandhiji continued to hold the Karmaveer in the same high regard is seen from a message that he sent to the Sanstha just three weeks before he was assassinated.

To this day the Rayat Shikshan Sanstha in its annual report publishes the religion-wise and caste-wise composition of its teaching and non-teaching staff. I do not know of any other educational institution which does thus. I also do not know of any other educational institution where this composition is nearer to the proportion of these groups in the general population.

Earn and Learn

The Karmaveer opened the gates of education to all castes. He also, on his side, opened it for all classes. But naturally the overwhelming majority of the students came from the lowest income groups. To students coming from these groups he assured that if they were prepared to take their education under conditions of physical hardship, and were prepared to put in manual labour he would see to it that they would get their upkeep and also get education During his days there was no remission of fees on a general basis and the number of scholarships was also very limited. The Karmaveer's assurance, therefore, attracted many students, and he himself many a time spotted talented children from poor illiterate families and took them up for education. At least one of the four Vice-Chancellors referred to earlier had been so picked up in his early childhood.

Since India became independent conditions in relations to provision of freeships and scholarships have improved much. In the last days of his life the Karmaveer received the news that all fees had been abolished for the economically backward classes. His reaction was of mixed feelings. He also expressed this to the then Education Minister when the latter came to visit him in the hospital. The Karmaveer's fear was that this would keep the students away from hard work, which by itself is or should be part of good education. One can judge that Gandhiji would

have heartily agreed. In free India even students from well-to-do classes should have been required to put in work and meet some of the expenses that the nation incurs on their education.

As we know we have chosen to do otherwise and the pioneering trail opened by the Karmaveer has been lost, perhaps for ever.

With Grants if Available
Without Grants if Necessary

The present author, in his young days, had the good fortune to watch the Karmaveer in action while a new primary school was in the process of getting started. The Karmaveer had kindly taken him to the village where this discussion was to take place. This was in the pre-independence days and the present author still remembers the eager expressions on the faces of the villagers and how each small requirement was being considered and solutions devised. Not even once the question of any Government or any other type of grant was discussed. The Karmaveer's thrust was to carry on the work, grant or no grant.

This spirit of independence had to meet a critical and crucial test in 1948. After Gandhiji's assassination by a Brahmin there were large-scale anti-Brahmin riots in Maharashtra. The Karmaveer's institutions gave opportunities to Brahmins and many Brahmins were also among the members of the staff. If any reassurance is needed regarding the basic orientation of the Karmaveer and his institutions it is enough to mention that Professor D.R. Gadgil, the renowned economist, who later on also worked as the Deputy Chairman of the Planning Commission, was a close friend and an admirer of the Karmaveer and was associated with the Rayat Shikshan Sanstha as its Vice-President. In the hectic days of February, 1948, however, the Karmaveer came under a cloud of suspicion and the Government grants to his institutions were stopped by the Government. The Karmaveer, however, faced all this in his usual temperamental style : 'My head is bloodied but unbowed.' He decided to continue his work even without any grants, as he had done in most of the pre-independence years. The general public also rallied to his support and ultimately the Government had to restore the grants.

'Build the Bridges'

The Karmaveer's postures at first sight were militant but his approach was to build bridges between conflicting groups. This has come out very nicely in Shri Shankarrao Kharat's autobiography. The background is the Union hostal established in a make-shift shed near tne campus of the Fergusson College, Pune. It was also typical of the Karmaveer that the hostel was named 'Union' to commemorate the then recent Yerawada Pact between Gandhiji and Ambedkar. Shri Kharat narrates :

"Anna (the Karmaveer) was relaxing in an arm-chair outside rhe hostel. Our hostel was in a poor condition and in a poor area. A little beyond across the street glittering lights lit up the quarters of the rich and well-to-do people. We had all gathered around Anna."

Then Anna said, 'You have to build the bridges between these two extremes.'

Such was the man.

And such was his attitude.

A few weeks before his death the Poona University conferred on him the Degree of Doctor of Letters. As he could not go to the University Hall, the Vice-Chancellor, Dr. R.P. Paranjpye, went with some of the members of the Syndicate to his bed in the Hospital, and honoured him with the citation and ceremonial robes.

The University was really honouring itself.

The present author can vouchsafe for this feeling of the University of Poona. □

SENIOR COLLEGES CONDUCTED BY
THE RAYAT SHIKSHAN SANSTHA
Founder : Padma-Bhushan Dr. Karmaveer Bhaurao Patil

Science & Commerce College, Hadapsar, Pune 411 028

Est. 1986

No. of Students : 181

Dr. S.P. Dalavi
PRINCIPAL

Arts, Science & Commerce College, Panvel, Dist. Raigad

Est. 1970

No. of Students : 2907

Shri R.D. Gaikwad
PRINCIPAL

AZAD COLLEGE OF EDUCATION, SATARA

Est. 1955

No. of Students : 293

Shri A.P. Kharat
PRINCIPAL

Yashwantrao Chavan Institute of Science, Satara

Est. 1965

No. of Students : 2002

Shri S.D. Patil
PRINCIPAL

Dahiwadi College, Dahiwadi, Dist. Satara

Est. 1965

No. of Students : 1217

Dr. T.K. Pawar
PRINCIPAL

Ismailsaheb Mulla Law College, Satara

Est. 1968

No. of Students : 468

Shri K.V. Patil
PRINCIPAL

Dhananjayrao Gadgil College of Commerce, Satara

Est. 1971

No. of Students : 1938

Shri M.M. Swami

PRINCIPAL

Arts & Commerce College, Shiraval Tal. Khandala Dist. Satara

Est. 1983

No. of Students : 218

Shri B.L. Shinde

PRINCIPAL

Engineering College & Polytechnic, Satara

Est. 1983

No. of Students : 5588

Shri M.S. Gopal

PRINCIPAL

D.P. Bhosale College, Koregaon, Dist. Satara

(Arts, Science & Commerce)

Est. 1985

No. of Students : 950

Shri S.K. Patil

PRINCIPAL

Life, Work and Philosophy of Karmaveer Bhaurao Patil

A.B. Magdum

"Karmaveer Bhaurao Patil lived in the service of the motherland. Through his selfless work he ranks among the builders of modern Maharashtra and modern India" said Prime Minister Rajiv Gandhi, on the eve of the birth centenary of Karmaveer Bhaurao Patil.

'Karmaveer' literally means 'Hero in Action'. Bhaurao Patil was a hero in action. He was not a man of words. So we will have to trace his philosophy in his life and his work.

Karmaveer Bhaurao Patil was born on September 22, 1887. He got his primary education in the schools in those villages in which his father used to live as a humble government servant. Bhaurao was sent to Rajaram High School, Kolhapur, in 1902. In Kolhapur he lived in a Jain Hostel. Bhaurao did not do well in his studies, though with difficulty he went upto the pre-matriculation class. However Bhaurao had a good physique and was found of gymnastics.

In spite of his poor progress with books, many of his teachers liked him as he was ready to do hard physical labour, whenever occasion demanded it

Bhaurao, as an educationist laid great stress on the dignity of labour. He expected his students to do hard manual work.

Bhaurao was expelled from the Jain Hostel because he attended the opening ceremony of a Hostel for the Depressed Class Boys—the Miss Clerke Hostel. Bhaurao was, then, taken by one of his classmates to the palace of His Highness Chhatrapati Shahu Maharaj of Kolhapur. Bhaurao's close acquaintance with His Highness widened his outlook and gave him a new philosophy of life.

Bhaurao was sent to Davar's College of Commerce, Bombay, by a philanthropist to learn book-keeping and type writing. But he did not show any progress there either.

After returning from Bombay, Bhaurao took to teaching. Unusual because he was never good at his studies. He gave private tuitions to individuals and later ran a small 'English Teaching Class'. His private tutorial work was a great success.

Out of his private tuition work, that he then did, rose the largest non-government network of primary, secondary and collegiate educational institutions ever seen in India.

Bhaurao earlier founded a study centre at Dudhgaon known as 'Dudhgaon Vidyarthi Ashram' with the cooperation of a number of local enthusiasts. Encouraged by the success of this experiment, Bhaurao founded his now famous educational society, the Rayat Shikshan Sanstha (Peasant's Education Society) in 1911, at Kale, which was shifted to Satara in 1924.

Prior to 1924, Bhaurao worked for some years as an insurance agent, as a recruiting agent and also as a sales representative of the 'Ogale Glass Works' and the 'Kirloskar Brothers'. He had founded the 'Cooper Engineering Works' in collaboration with Mr. Dhanjishah Cooper.

From 1924 to 1934, the Rayat Shikshan Sanstha functioned as a private institution of which Bhaurao Patil was the proprietor. He was, however, a strange proprietor who cared not for any profit for himself. On the other hand he spent his own money on this costly enterprise.

The first thing Bhaurao Patil did in Satara in the name of the Rayat Shikshan Sanstha was to found in 1924 a Boarding House for school-going children. The first inmate of this Boarding House was a Harijan boy. This Boarding House was named, as 'Chhatrapati Shahu Boarding House', at the auspicious hands of Mahatma Gandhi in 1927, There were 34 inmates in the Chhatrapati Shahu Boarding House, including 13 Harijan boys. The numbers grew from year to year.

A similar cosmopolitan Hostel—the Union Boarding House—was started in Pune in 1932, which enabled Bhaurao's boys to complete their collegiate education.

The two cosmopolitan hostels did pioneering work in the eradication of untouchability.

One of the distinguishing features of Bhaurao's educational institutions is that students are expected to do manual labour in order to get their education. In the case of his students, manual labour is an integral part of their education. Bhaurao advocated manual labour in schools and colleges so that no promising and deserving student should go without education on the ground of parents' poverty. It was the glory of Bhaurao and his students that they are not ashamed of the need to work. They believe in the dignity of labour.

The Rayat Shikshan Sanstha was registered in 1935, under the Societies Registration Act and later under the Public Trust Act. The first teaching institution founded by Bhaurao was an institution for the training of primary school teachers. But what gave him recognition as a great servant of the people was what followed, viz., the founding of a number of voluntary primary schools in the Satara District, more especially in the backward areas such as the mountainous areas in the west and the dry and arid areas in the east of the district.

Bhaurao's declared intention was to see that no village in the Satara District, however small, remained without a school and a trained school master. The number of Voluntary Primary Schools run by the Rayat Shikshan Sanstha began to increase from year to year. The peak year was 1947-48 with 578 such schools.

Bhaurao realised that the peasants of India should not be satisfied with the mere rudiments of learning provided in the primary schools, but should see that their boys and girls get atleast secondary education. So he devoted his energy to the spread of secondary education.

The first secondary school founded by Bhaurao was called the "Maharaja Sayajirao Free and Residential High School'. No fees were charged. The pupils were enabled to earn for their education through such kind of manual labour as breaking stones, levelling grounds, bricklaying and agricultural work.

Karmaveer Bhaurao Patil was keen that no one should expect to get education or living expenses free. That produces sycophants and social parasites. Students should be ready to help themselves by the sweat of their brow. "Education through self reliant and self respecting effort" was the slogan. Subsequently Bhaurao Patil opened a number of secondary schools in the rural areas of Maharashtra.

The first college of the Rayat Shikshan Sanstha was opened at Satara, by Bhaurao Patil in 1947. This was the 'Chhatrapati Shivaji College'. This too was Free and Residential. No fees were charged and admission was restricted to students who agreed to live in the College Residency, and to submit themselves to the discipline of austere simplicity in living and the obligation to do manual labour.

A Bombay educationist, who was engaged in a study of educational experiments in India and collected information regarding the 'manual labour scheme' of the Chhatrapati Shivaji College wondered why the scheme should not be introduced in other colleges in India.

Bhaurao Patil opened the Sadguru Gadage Maharaj College, in 1954, at Saidapur, a small village near Karad. In 1955, he opened, at Satara, a College of Education for the training of graduate teachers, which was, later named as the 'Azad College of Education' in memory of late Abul Kalam Azad. Bhaurao believed in the preparation of teachers and social workers he needed for the work he had undertaken.

Bhaurao was not keeping good health in later years and passed away on May 9, 1959.

The Rayat Shikshan Sanstha, founded by Bhaurao conducts, in 1988, more than five hundred institutions including 326 secondary schools, 29 colleges affiliated to 3 Universities and nearly one hundred cosmopolitan hostels.

Karmaveer Bhaurao Patil lived a simple and austere life. He ate the same kind of food as the ryot ate. His dress was extremely simple. When he first saw Mahatma Gandhi, in Bombay, in 1921, calling on people to make a bonfire of their foreign clothes, Bhaurao threw his foreign clothes into the fire. From that time, he went about everywhere clad in rough Khadi clothes. He, never put any headdress or footwear. The 'ghongadi' he wore on his shoulders was his raincoat in the monsoons, often his rug at night, and sometimes his mattress as well. It was in this simple dress that Bhaurao attended a Durbar in His Highness Sayajirao Gaikwad's Court at Baroda and attended a reception given to the Russian Prime Minister in Pune in 1956.

When Bhaurao travelled to collect donations for his institutions, there were occasions when he slept in

the open on the bank of a river and on the footpaths in the Bombay city. When hospitality was available he preferred to stay with working class people.

In the later years of his life money flowed into his hands, not only in thousands, but in tens of thousands. With all that, however, he continued to live the life of an ordinary ryot, with this difference that while a ryot had some land and a living house of his own, Bhaurao had no property which he could call his own.

The distinction of the Karmaveer was that for the major portion of his working life, he refused to accept any honorarium for his own service. In this respect Bhaurao was a true follower of Mahatma Jyotirao Phule and Mahatma Gandhi. The Karmaveer kept his simplicity of life and unselfishness right to the end.

Bhaurao was a poor man because he chose to be poor. He had shown in his younger years that he could make money for himself if he chose to. But after some time, he gave up all effort to acquire money. On the other hand, whatever little saving he had or whatever amount he could get, he spent on the education and upbringing of lads from the countryside whom he had collected for the purpose of education.

Bhaurao was not rich in money, but he was rich in faith. He had faith in the worthwhileness of his cause. He also had the faith that if the cause was good and if he worked for it whole-heartedly and without selfish motives, support was sure to follow. He had great faith in the willingness of other people, especially of the poor and ordinary folk, to come to his support whenever he needed support.

Karmaveer's greatness is seen not only in his conviction that all worthwhile cause will be supported; it is also seen in his readiness to say 'no' to any offer, with unjust conditions attached to it.

The stream of popular support to Karmaveer Bhaurao Patil's work was growing in volume rapidly and steadily. Princes, Rajas, Maharajas, businssmen and landlords had joined hands with hundreds and thousands of poor peasants and farmers in an effort to make the Rayat Shikshan Sanstha's work an effective expression of the will of the common people to rouse themselves from their time-old apathy and indifference in regard to education.

Different people have called Bhaurao by different names. His students and friends called him 'Anna' or elder brother. The people called him Karmaveer. The President of India awarded him a Padma Bhushan. The Poona University conferred on him the honorary degree of Doctor of Letters.

Karmaveer Bhaurao Patil had certain ideas of education which had not entered the minds of the leaders of education of India.

Bhaurao had suggested to the industries—the Kirloskar Brothers and Cooper Engineering Works—that provision should be made for young workers to learn school subjects during working hours Such views are more prevelant today, when industries are regarded, not primarily as means of producing wealth for a few, but as a means of serving the interests of the working people no less than those of the employers. How far ahead Bhaurao was of others in this matter is seen from the fact that today also no demand is made by educationists in general that education of the employees is an integral part of education obligation of the industry.

Failing to make his industrialist friends serve the common man in the matter of education, Bhaurao thought he would himself make it possible for young people to engage themselves in remunerative work and at the same time prosecute their studies. This idea he put in the form of a slogan, "Earn and Learn". He put this idea into practice in his institutions. Bhaurao firmly believed that school and college education should be made available to young people who are willing to work.

He realised quite early that remunerative work and education should not be kept away from each other in watertight compartments. Even today most universities in India seem to work on the assumption that university education is for the well-to-do and for those who are enabled by scholarships to live like the well-to-do, and that they have no responsibility for those young men who, though they are compelled to seek employment for economic reasons, want to continue their studies. It is only recently that some provisions are being made for continuing education.

Bhaurao did not want to encourage sycophancy in education and therefore disapproved of students begging for their tuition fees or maintenance. For the same reason he discouraged young people depending on their parents for their education. At the same time Bhaurao was keen that no one, who was willing to work and who was intelligent to profit by studies, should go without education suitable to his talents. He strongly pleaded for equality of educational opportunity.

Karmaveer Bhaurao Patil visualised the creation of a casteless society and he held that life in cosmopolitan hostels was more conducive to this end, than separate hostels for different castes. Through such separate

hostels, the idea of segregation is strengthened, he held, instead of being broken down, whereas in cosmopolitan hostels a sense of oneness prevails.

Referring to this cosmopolitan character of Bhaurao's hostel, Maharaja Sayajirao Gaikwad of Baroda said in 1933, "An institution like this which is so free of distinction of caste or creed may not be found elsewhere in India." About twenty years later the Sarvodaya leader Jayaprakash Narayan said that a visit to Bhaurao's hostel was something that gave him inspiration and guidance. Similar eulogies have been recorded by Shri Vallabhbhai Patel, Dr. Karve, Dr. Ambedkar, Shri Thakkarbappa, Madanmohan Malviya and a host of other eminent notional leaders, who visited Bhaurao's cosmopolitan hostel. They described it as the unique institution, as there was no parallel to it anywhere else in India. In Bhaurao's educational work, no distinction was ever made in regard to religion, caste or creed.

Bhaurao saw creative possibilities in persons and also in unused lands. "Give me wastelands, and I will turn them into best lands", he often said.

'Shramdan' is a popular word now-a-days. It was to the credit of Bhaurao Patil that, quite early, he envisaged the importance of his students working with their hands not only on certain occasions, but as an essential factor in education throughout the educational period. But the education he had in mind was not something purely academic. It was education for life, that he wanted. Moreover the life he was concerned with, was not so much the life of the leisured classes, as that of the toiling population. He believed in democracy and regarded education as a means to give the ryots and other working people a higher standard of life—to enable them to lead a full life.

Besides education, Bhaurao used other means to serve the people. Education and rural uplift went together in Bhaurao's thoughts.

The educational philosophy of Karmaveer Bhaurao Patil was not of an academic type. It had direct bearing upon practical life. His philosophy grew out of his work, out of difficulties confronted, out of challenging situations. His philosophy may be classified as pragmatic.

Bhaurao used to say, "I had no fixed plan for the work undertaken by me. Like a man walking in darkness, with a torch in his hand, I walked and covered that much distance which was illuminated by the flash of the torch. Then a second flash illuminated further ground to be covered."

For Bhaurao the philosophy evolved out of his experiments that had instrumental value for attaining the goal of mass education, and the liberation of the downtrodden sections of the society. □

The Influence of the Works and Thoughts of Karmaveer Bhaurao Patil on Maharashtra

S. R. Suryavanshi

About three decades have gone by since the sad demise of Karmaveer Bhaurao Patil. Many attempts have been already made in recording his life, works and educational philosophy in the form of books, articles, Ph.D. theses and special issues of periodicals. Time was, when he was alive, when his activities and imperishable words were reverberated all over Maharashtra It is time now when a serious study of his contribution of permanent importance to the cause of education and society at large should be carried. Atleast, it is of paramount significance to know the legacy of the great educationist and social reformer in the present situation In the following passages an attempt is made to show broadly how his revolutionary ideas and activities have gone in shaping the educational, social and political ideas current in Modern Maharashtra

Karmaveer Bhaurao Patil may be counted among those who have done concrete work for the all-sided development of Maharashtra. Having been personally influenced by the great leaders and social workers, he had the unparalleled magnanimity of soul which aspired for the uplift of the educationally and socially backward and economically handicapped sections of society A dreamer and at the same time an activist, Bhaurao Patil always thought of speedy progress of the state as a whole, but, he had a firm conviction that it is through education alone that the masses can, not only realise the causes of their plight and backwardness but also struggle for attaining social and economic stability Throughout his life he strove for educating the masses by opening primary and secondary schools and colleges imparting instructions in various faculties. The educational institution named Rayat Shikshan Sanstha connoting mainly the masses—was founded by him in 1919. This institution, a type by itself, is conducting 326 Highschools, 29 Colleges, 22 Primary Schools, 81 hostels, 8 Training Colleges for Teachers and numerous ancillary branches. One can rarely find an educational institution doing the work in about 16 districts of Maharashtra and running about five hundred branches. During the last 70 years, it has been imparting education to those who might otherwise have been deprived of their right to education. The Government and the people of Maharashtra have long before recognised the exemplary services rendered by this institution. It has become a model for a large number of other educational institutions, especially in respect of its administrative pattern, and its aims, objectives and functioning. The successful functioning of this institution might not have been possible without the presiding spirit and towering personality of its founder.

Having robust health and robust mind, Bhaurao Patil looked like a great saint and visionary. A man of action and of firm convictions, he had captivating oratory. His words were grounded in experience and knowledge, reality and prophecy. Clad in Khadi dhoti and shirt this barefooted and bareheaded Karmaveer moved from village to village and from district to district, giving his message of the need of education, of education through self help, of eradication of caste system, of improvement of the lot of the downtrodden. The work he had undertaken was so significant, his devotion and his urge so strong and his approaches so captivating that many persons from all sections of society were greatly influenced by his educational mission. The commoners as well as landlords expressed their desire to contribute their mite for the progress of the educational work. As a result, he could open hundreds of primary schools, high schools, training colleges and a few affiliated colleges in his life time. The institution has grown from strength to strength and since the network of its branches has spread like the branches of the banyan tree (which is the symbol of the institution), in 16 districts of the State of Maharashtra, it has become the biggest and most influential educational institution. Founded and blessed as it is, by Karmaveer Bhaurao Patil, the institution has left an indelible mark on the general set-up of education in Maharashtra. It will not be an exaggeration to state that the history of the last sixty years of the development of education in Maharashtra has much to do with the history of the Rayat Shikshan Sanstha. Having been inspired by the pioneering work of Karmaveer Anna, many educationists in Maharashtra were moved to establish their own educational institutions, although they had different motives and ideals before them. As a result, one notices dozens of educational institutions on the map

of Maharashtra, thus making it one of the educationally advanced states of India.

Tutored as he himself was in the thoughts of removal of illiteracy and untouchability, the first work which Karmaveer took in his hand was that of opening primary schools in the inaccessible, remote hamlets of western Maharashtra and thus he launched his bold and revolutionary programme of eradication of illiteracy. The then Government was greatly impressed by this extraordinary feat and was not only moved to take over all those voluntary schools in order to make them aided schools but also to change the very educational policy for the better. The Government was convinced of the need of the spread of primary education so much so that it started opening hundreds of primary schools in the remote regions of Maharashtra.

Long before our Independence, Karmaveer Bhaurao Patil, a dreamer and a visionary of visions, had envisioned the casteless and classless society of India. In order to realise his long cherished dreams, he established such boarding houses wherein could reside the inmates drawn from all communities, castes, creeds and religions. The first boarding house established in 1919 at Kale, a village in Satara District. Soon came a number of boarding houses among which Chhatrapati Shahu Boarding House Satara is the one which was christened at the auspicious hands of Mahatma Gandhi, and which trails a long and glorious history of the brightest and most devoted team of life members of the institution. The inmates of such cosmopolitan hostels lived, dined and studied together. Here indeed was the first-ever bold and conscious experiment in national integration. Hundreds and thousands of inmates of these hostels removed for themselves the curse of untouchability and social disintegration. They became responsible citizens of the state who later carried on the message of the Karmaveer. Similarly many other educational institutions were convinced of the ideals for which the Karmaveer stood and they opened numerous hostels on the same pattern. It is with the efforts of these institutions and those of the Government that the scar of untouchability is removed from the state. The Rayat Shikshan Sanstha gives more importance to hostels since they not only provide the boarding and educational facilities but also promote social harmony.

The educational principle of the greatest significance which the Karmaveer propounded was the principle of 'Education through self help'. It is perhaps the first educational experiment ever practised in the whole of India. With this principle, the Karmaveer has shown to all the students coming from the economically handicapped sections of society that one can win education by one's own sweat of brow and that poverty or financial straits cannot come in the way of their education. This principle is embedded in a sound philosophy of life. It has been for years the practice of the educated ones to shun all physical labour and to despise those that do the hard work. The recent generations of educated persons have all shown indifference to the principle of dignity of labour. The Karmaveer right from the inception of the Rayat Shikshan Sanstha, bore to his bosom the idea that the persons educated in his institution should be self reliant, and sympathetic to the common masses that form the bulk of Indian population. With this view in mind, the Karmaveer, this apostle of an absolutely original principle of education, appealed to the masses, "Give us waste land, we will turn it into the best land". At present, many branches of the Rayat Shikshan Sanstha possess cultivable lands which have become the places upon which the experiments of "Earn while you learn" are being made. So far, thousands of students from various schools and colleges have been benefited by the 'manual labour scheme'. The very motto of the sanstha is "Education through self-help". Needless to say, that in full recognition of the significance of the principle, the Shivaji University, Kolhapur has been implementing the manual labour scheme since 1969. One however, is surprised to know that although much expenditure is normally incurred on education and though thousands of parents find it very difficult to provide higher education to their wards, neither the Government nor the educational institutions are directing their policies for the implementation of such a beneficial scheme.

The Karmaveer also propounded the idea that all the students should have the technical know how of minor articles, of things they handle in their day to day life, so that they could use their hands and heads for the betterment of their lives. The practice of it would, he believed, train them in coordinating learning with life. Perhapse it is this notion of work experience which seems to have been introduced in the school curricula by the Government of Maharashtra.

Karmaveer Bhaurao Patil was practical idealist. He thought that the educational institutions or their branches should be financially self-supporting. They need not always depend upon the external aids for their development. With this view in mind, he esta-

blished a bank and a co-operative store to make a beginning. The institution also owns many acres of cultivable land in many districts. Although, they are not and will not be sufficient for meeting the expenses of the branches, they stand as an insignia of remarkable feature which many institutions, small or big, should strive to emulate. It is no wonder that many educational institutions have of late created their financial resources.

Another remarkable feature of this outstanding institution is its democratic administrative set up. For purposes of smoth administration, the institution has established four regional offices at Satara, Sangli, Ahmednagar and Pune and the central office at Satara. The General Body, the Managing Council, the Board of Life-Members, Higher Education Committee (meant for Colleges) and the Coordination Committee (meant for high-schools, primary schools, etc.) are some of the bodies which periodically and democratically settle all issues and fix policies for smooth day-to-day functioning of 500 branches. For purposes of execution the sanstha has instituted the posts of the Organiser, the Secretary, the Joint Secretary, the Auditor and the four regional Inspectors. The working of the institution has been guided and patronised by eminent dignitaries of national and state level in their capacities as the President and the Chairman. One will be surprised to know that the Karmaveer who had framed this administrative structure had never been a member of any administrative body. This should go as an object lesson for the followers of Karmaveer's principles.

Another worth-noting principle enunciated by Karmaveer Bhaurao Patil was that every educational institution should be managed by its own teachers. With this view in mind, he had trained and moulded the teachers of the Sanstha. During his life time, he had formulated the cadres of selfless and dedicated workers of sacrificing nature who would be capable of shouldering the educational responsibilities. It is worthwhile to note here that both the Government and the public have, from time to time, applauded the administrative set-up and the devoted teachers of this institution. The modes of proper functioning of this institution have been adopted atleast partially by other educational institutions. The Sanstha has also provided teachers of outstanding merit to various institutions and Government concerns.

As he was influenced by Mahatma Phule and Mahatma Gandhi, Karmaveer Bhaurao Patil had thought of the necessity of providing education to women. The schools which are located in the rural areas are attended by thousands of girl students. Long before independence, he had established a cosmopolitan hostel for girls and Jijamata Training College for training the primary school lady teachers. The Karmaveer used to stress the need of women's education in all his speeches delivered in different districts on different occasions. It was he who created an awareness of female education among the rural public.

The Karmaveer often pronounced his innermost desire of establishing a sort of Rural University which could impart such education that would be useful and accessible to the people from the rural areas and which could brighten their lots. Such a university, he felt, would implement his principles such as earn while you learn, dignity of labour, mass education, uplift and enlightenment of the masses, etc. Although this dream was not realised during his life time, there is every reason to believe that in the light of changing horizons and new dimensions of the educational policies of the Central Government, it would not remain a dream.

The personality of Karmaveer Bhaurao Patil was a rare blend of educationist and social reformer. Basically, he being a social reformer he wanted to have social amelioration through proper education, which according to him, was the most effective means of all social changes. In fact, there was no aspect of social life which was left uncontemplated by him. With the beginning of this century, there had been a number of social movements working for the banishment of the social ills. These and the thoughts of Mahatma Phule and Mahatma Gandhi had made an impact upon Karmaveer as a social reformer. Having been inspired to do something for the sake of society at large, he first became a member of the Satyashodhak Movement which had been started by Mahatma Phule in 1870 and which had all along been striving with constructive means to free the society from the social ills like, illiteracy, inequality, casteism, untouchability, dowry system, and traditional superstitious practices. Besides being mainly engaged in educational work, he often participated in the activities of various social organisations and movements. He played a vital role in the eradication of untouchability, participated and worked effectively in the Harijan Seva Sangh established by the Father of the National, worked as a member of the Mission established by Sant Gadge Maharaj who endeavoured to bring about social unity, brotherhood and the uplift of the Harijans. He

worked as a Trustee of the Depressed Class Mission founded by Vitthal Ramji Shinde. worked as a member of the Backward Class Welfare Board of the then Bombay Presidency. He was a member of the Satara District Board established for the welfare of Harijans, and was for many years, a member of the Satara District Development and the Rural Development Board. He was also a member of the Maharashtra Social Conference which had before it the goals of social equality, eradication of untouchability and the economic development of the masses.

Wherever Karmaveer Bhaurao Patil went, he propagated the need of inter-caste marriages which, he thought, would bring about speedy social harmony. He not only settled such marriages but also attended many which he had not settled. He had the intention of emancipating the masses from the orthodox traditions and superstitions. When the Kirloskar plough came into the market the peasants were unwilling to use it as it was made of iron. But Karmaveer convinced them all of its effectiveness and wiped out their superstitious notions. Whenever occasion demanded the Karmaveer spoke harshly against the exploitation of the paupers and peasants by the moneylenders and the landlords. He was against all types of religious rites especially those performed by the village priests. He had opened 'Samskar Kendras' at many places where persons from all castes and religions would gather together and learn about the needs of cleanliness, social unity, equality and literacy. This is how the reformer in him was constantly absorbed and engaged in removing the malpractices and ignorance of people. All his attempts have gone a long way in moulding the minds of generations of Maharashtrians. His works and speeches have awakened masses from lethargy, ignorance and stupor.

Although not an active politician, Karmaveer Bhaurao Patil was indirectly involved in the political activities before and after independence. But his political thoughts had a bearing on the liberation and welfare of mankind. He did not propagate any ism though he had inclination towards the isms which struggled for the all sided progress and equality of society. Before independence, the teachers and students in his schools had created an urge for freedom in the minds of the villagers. In his life time and after, the leaders of various political parties in Maharashtra used to take keen interest in the progress of his institution. The Karmaveer had maintained warm relations with the workers and leaders of all political parties. He had remained throughout a staunch nationalist.

As a pragmatist to the core, Bhaurao Patil had a practical view of all things. He used to study the problems from the economic point of view while developing various branches of his institution. Similarly, he had given a serious thought to the economic conditions of the farmers. He wanted that agriculture in the nation should be modernised by the use of modern techniques and implements. He used to lay emphasis on the cooperative movement to usher in general economic progress of the farmers. He started in 1911, and effectively implemented the Co-operative Farming Scheme at Koregaon (Satara). He also executed a scheme of all sided development of nine villages around Devapur in Satara District. The Scheme was started by Sir Dorabji Tata Trust Rural Development Board. He also started a Cooperative Bank and a Consumers' Cooperative Store for the sake of the staff of the Rayat Shikshan Sanstha. These and such other activities indicate that he believed in and cared for the concept of socialism through cooperation.

The State of Maharashtra has been the cradle of great saints, national leaders, educationists, thinkers and social reformers. Karmaveer Bhaurao Patil is one of the few architects of Modern Maharashtra. All his works and words have, as has been adumbrated above, phenomenally rendered concrete services to the State of Maharshtra in its stages of multi-faceted development. The legacy of his works and words will not only be enshrined and treasured up in the bosoms of generations to come but also will inspire educationists, social reformers economists and even politicians, in their respective undertakings. □

TO OUR READERS

Knowledgeable and perceptive as they are, our contributors must not necessarily be allowed to have the last word. It is for you, the readers, to join issues with them. Our columns are as much open to you as to our contributors. Your communications should, however, be brief and to the point.

Rayat Shikshan Sanstha, Satara

Subhashchandra Bhosale

The Rayat Shikshan Sanstha owes its inception to the Great Social Reformer and the Renowned Educationist, Karmaveer Bhaurao Patil, who founded it on October 4, 1919 at one small village Kale (District Satara). His firm conviction that the genesis of the most of the social evils such as inequality—both social and economic—caste-based distinctions between man and man, undesirable traditions and superstitions, lay in the ignorance of the masses; and that the eradication of the ignorance is of paramount importance, led him to the mission of educating the masses. He believed, as is commonly believed, that the education is the powerful means of social transformation.

Karmaveer Bhaurao Patil had a fathomless faith in the work of such towering leaders, as Mahatma Jotirao Phule, Mahatma Gandhi, Chh. Shahu Maharaj and creative connections with and stimulating support from the great contemporary servants of society like Sant Gadage Maharaj, Vitthal Ramji Shinde and Dr. Babasaheb Ambedkar. This not only resulted in strengthening his convictions, but inspired him to work ceaselessly with untiring zeal and drive for the mission of the cause of education to the common man. Bhaurao did this through his Rayat Shikshan Sanstha. The Sanstha thus, has a commitment to the cause of upliftment of the down-trodden through education right from its foundation.

Although established in 1919 at village Kale, the Head Quarter of the Sanstha was soon shifted to the District place Satara in the year 1924.

The primary form of the Sanstha was that of running the hostels for the boys coming for education to cities. The first of such Hostels was opened at Satara in 1924 with just 4 inmates. Although in terms of strength, the Hostel was very small, in terms of its social significance, its work was great and unique, as the 4 inmates residing in the Hostel belonged to different castes—two of them being Marathas, one Jain and one Mahar by caste. Later in the year 1927, the Hostel was named as "Shri Chh. Shahu Boarding". The inmates in this Boarding were made to live common family life forgetting thereby traditional caste distinctions. They were further made to do the manual labour for such as cleaning the rooms and yards, preparation of food, helping the building constructions, farming, etc. with a view to promoting the dignity of labour and arresting the development of white-collar leanings.

Until 1935, the Sanstha was being run as the private society without the recognition of the Government. In 1935, however, it was registered under Society's Registration Act, 1860.

This experiment of Karmaveer was not only unique but was revolutionary as well, as it was an open challenge to the traditionalism and casteism that had intoxicated the Indian Society almost to the state of madness. The Sanstha later on went on opening additional hostels on toe lines of Chh. Shahu Boarding. Today, there are as many as 83 such hostels with inmates' strength of 3,931.

Besides the hostels described above, the Sanstha has been running for the last 46 years hostels for Court-committed boys with a strength of over 4,500 and of late a Hostel for 50 destitute children.

Upto 1935 the Sanstha had only the limited sphere and also the restricted nature of work, that of running Hostels for students and of inculcating in them the values involving humanity, fraternity, equality and dignity of labour. In 1936 the Sanstha, as a next step in its mission, took up the programme of running primary schools in villages. For this the Founder did extensive bare-footed travelling treading the remote planes, valleys and hills. Starting with first primary school at Satara (presently known as Rao Bahadur Practising School), the Founder opened as many as 578 primary schools in different villages. After Independence, however, they were transferred to Government. Presently, Sanstha runs 4 Primary Schools.

But before venturing on this vast programme, the Sanstha was quite conscious of the dearth of the adequately trained teachers who could go into the villages and teach there. It was, therefore, necessary to prepare trained teachers to meet the need. The Sanstha, therefore, opened, in the year 1935 the first Primary School Teachers' Training College at Satara, present known as Mahatma Phule Training College. Later, the Sanstha opened additional training colleges Presently, it runs 8 such Training Colleges in different Districts of Maharashtra.

In the year 1940, the Sanstha stepped into the field of Secondary Education by starting a Secondary School at Satara after the name of Maharaja Sayajirao Gaikwad of Baroda. The most significant feature of this School was that it was run initially as the "Free and Residential School"—a unique experiment

RAYAT SHIKSHAN SANSTHA

At a Glance—1987-88

Types of Inatitutions

		No.
Senior Colleges		29
Secondary Schools		326
Girls' Schools	12	
Higher Secondary Schools	100	
Commerce Schools	7	
Agriculture Schools	11	
Technical Schools	18	
Junior Colleges of Education		8
Tailoring Institutions		2
Primary & Pre-Primary Schools		22
Cosmopolitan Hostels		81
Ancillary Branches		41
	Total	509

Students

Colleges		23,283
Junior Colleges		15,329
Secondary Schools		2,42,217
Junior Colleges of Education		695
Tailoring Institutions		35
Primary & Pre-primary Schools		3,915
	Total	2,85,474

Employees

Administrative Office		147
Colleges		1,764
Junior Colleges		444
Secondary Schools		10,274
Junior Colleges of Education		109
Primary & Pre-primary Schools		115
Hostels		66
Ancillary Branches		34
	Total	12,953

indeed. This first step in the field of secondary education was actually the beginning of a long, unending march, as the Sanstha went on adding more and more schools every year covering more and more villages in different parts of Maharashtra creating thereby the opportunities of secondary education to such students as would normally never reach there. In fact, Karmaveer Bhaurao Patil himself, while paying homage to Mahatma Gandhi after his sad assassination, had vowed to open 101 schools in the name of the Father of the Nation. Today the Sanstha runs as many as 321 secondary schools which include 99 higher secondary schools and 36 technical schools in 13 Districts of Maharashtra and Belgaum District of Karnataka.

The year 1947 was the year when Sanstha's progress graph rose into the-top stage of education, as in this year the Sanstha entered into the field of higher education by starting a college at Satara in the name of the great King of Maharashtra, Chh. Shivaji Maharaj, whom the people of Maharashtra deify. Here again the Founder made the bold declaration—"This College will be runs as Free and Residential". Free because he thought the poor wouldn't afford to pay fees and residential because he wanted to work on them and give something more than what the university curricula give—the human values and the social consciousness. The students of this College were made to meet the cost of their education—at least partly—through their own earnings. For this the Sanstha started the scheme "Earn while you Learn". The Sanstha's march in this field also is continuous and unending as will be evident from the present number of the 29 Colleges imparting instructions in the usual faculties of Arts, Science and Commerce and also professional faculties of Education, Law and Engineering.

Besides these educational institutions the Sanstha runs some additional ancilliary branches and schemes such as :

(i) Rayat Sevak Co-operative Bank
(ii) Rayat Co-operative Stores
(iii) Laxmibai Bhaurao Patil Shikshanottejak Patpedhi
(iv) Panchayat Raj Training Centre
(v) Rayat Printing Press
(vi) Rayat Sevak Welfare Fund
(vii) Rayat Sevak Niyatakalik
(viii) Rayat Shikshan Patrika
(ix) Karmaveer Vidya Prabodhini.
(x) Rayat Sevak Kutumb Kalyan Yojana.

Well, The Rayat Shikshan Sanstha has been doing this work for the last 6-7 decades in Maharashtra. It has grown from its miniature form in 1919 to the present magnificent form. Its tremendous success and its stupendous work hardly has any parallel elsewhere, and we feel the secret of this success lies in the cause. The cause of the emancipation of the masses through education. □

SENIOR COLLEGES CONDUCTED BY
THE RAYAT SHIKSHAN SANSTHA *(Contd.)*

Founder : Padma-Bhushan Dr. Karmaveer Bhaurao Patil

Sadguru Gadge Maharaj College, Karad, Dist. Satara
(Arts, Science & Commerce)

Est. 1954

No. of Students : 3286

Shri D.K. Khot
PRINCIPAL

Chhatrapati Shivaji College, Satara
(Arts)

Est. 1947

No. of Students : 1962

Dr. S.R. Suryavanshi
PRINCIPAL

Dada Patil College, Karjat, Dist. Ahmednagar
(Arts, Science & Commerce)

Est. 1946

No. of Students : 1209

Shri R.S. Shetye

PRINCIPAL

Chandrarup Dakle Jain College of Commerce,
Shrirampur, Dist. Ahmednagar

Est. 1962

No. of Students : 1546

Shri S.D. Bhor

PRINCIPAL

Karmaveer Bhaurao Patil

Glimpses of a Great Life

Educational Work

1. Participated actively since 1909 in the work of 'Shikshan Prasarak Mandal', Dudhgaon.
2. Established in 1919 the Rayat Shikshan Sanstha at Kale, Tal. Karad, Dist. Satara for imparting education to the children of the villagers.
3. Opened in 1921 a hostel at Nerle, Tal. Walwa.
4. Established in 1924 the first Students' Hostel at Satara which was meant for the students coming from all communities, castes and creeds. He named it, after the name of the great Social Reformer viz., Rajarshi Chhatrapti Shahu Maharaj, at the auspicious hands of Mahatma Gandhi in 1927. Since then, Mahatma Gandhi used to give annual donation of Rs. 500/- from the Harijan Sevak Fund which was founded by him.
5. Established in 1932 a cosmopolitan 'Union Boarding House' which was a hostel meant for students coming from rural areas for taking higher education in Poona.
6. In 1935, he got the Rayat Shikshan Sanstha registered under the Societies' Registration Act. In the same year he established a Training College for training Primary teachers.
7. In 1936, he established the first primary school at Satara and named it after the social worker from Satara viz., Rao Bahadur R. R. Kale.
8. Established in 1938, the first—Voluntary Primary School of the Rayat Shikshan Sanstha at Yewateshwar, a village which is situated on a hill. In the succeeding years he started as many as 578 similar voluntary primary schools in the hilly, mountainous and famine-stricken areas.
9. In 1940, he established a free and residential secondary school at Satara and named it after Maharaja Sayajirao Gaikwad. The School was meant for students coming from all classes and communities. Afterwards he founded 101 secondary schools during his life-time.
10. In 1942, he started a cosmopolitan hostel for girls and established Jijamata Training College meant for training the Primary school lady-teachers.
11. In 1947, he established at Satara the first College on behalf of Rayat Shikshan Sanstha imparting higher education to students in the rural areas of the then Bombay State and named it after the National Hero viz., Chhatrapati Shivaji Maharaj. For some early years it was conducted as a free and residential college.
12. The second College for imparting University Education was started at a Taluka Place, Karad (Dist. Satara) in 1954. It was named after the great saint of Maharashtra viz , Sant Gadage Maharaj.
13. In 1955, he established a B.Ed. College at Satara which was meant for training the secondary school teachers and he named it after the great National Leader, Maulana Abul Kalam Azad.

Allied Educational Work

1. Participated actively in solving the problems and difficulties regarding services of the primary teachers and guided their State Level Organisation.
2. Worked as a Member nominated by the Chancellor on the Court of the Poona University.
3. Worked as a Member of the Advisory Body of the Mahatma Gandhi Vidyamandir, Malegaon, Dist. Nasik.
4. Worked as a Member of the Latthe Education Society at Sangli.
5. Worked as a Member of the Provincial Board for Education of the Bombay State.

6. Set an ideal example before the whole nation through Rayat Shikshan Sanstha by various innovative educational experiments in 'Education through Self-help', 'Dignity of labour', 'Earn and Learn' and chatusutri—i.e. 'Swavalamban— Swabhiman—Swadhyay—Samata'.

Social Work

1. Worked as frontline worker in the Satyashodhak Movement started by Mahatma Phule.
2. Played a leading role in the Movement for Eradication of Untouchability.
3. Participated and worked actively in the Harijan Sevak Sangh established by the Father of the Nation, Mahatma Gandhi.
4. Worked as a Member of the Mission established by one of the great saints of Maharashtra, viz., Sant Gadage Maharaj for purposes of social unity, justice, brotherhood and uplift of the Harijans.
5. Worked as a Trustee of the Depressed Class Mission which was founded by a great Social Reformer, viz., the late Vitthal Ramji Shinde.
6. Worked for many years as a Member of the Backward Class Welfare Board of the then Bombay Presidency.
7. Executed effectively a Scheme of all sided development of the nine villages started by the Sir Dorabji Tata Trust Rural Development Board at Devapur, Dist. Satara in famine stricken area.
8. Worked as a Trustee of the Sant Chokha Mela Dharmashala which was founded for the welfare of the Harijans.
9. Worked as a Trustee of the Shashikala Sanitorium (T.B. Hospital) at Jaisingpur, Dist. Kolhapur.
10. Actively participated in the Social Conference held in Pune for Social Unity and Social Justice.
11. Worked for many years as a member of the Satara District Development Board.
12. Worked for many years as a Member of the Rural Development Board, Satara and of the Provincial Board, Bombay.
13. Worked as a Member of the Satara District Board which was established for the welfare of the Harijans.
14. Made untiring efforts to safeguard the interests of the workers from different industries by forming their organisations and looking after the education of their wards.

Work in Cooperation Movement

1. Started in 1911 and effectively implemented the Cooperative Farming Scheme at Koregaon, Satara District. The Scheme was meant for the welfare of the peasants.
2. Established in 1940 a Cooperative Society for the sake of workers in the Rayat Shikshan Sanstha. The Society was later converted into a Cooperative Bank.
3. Established in 1942 a Cooperative Store for the sake of the workers in the Rayat Shikshan Sanstha.
4. Established "Sou Laxmibai Patil Fund" for giving financial assistance or interest free loan to the poor and deserving students. (It was later converted into *Patpedhi*)
5. Helped to raise the standard of life of the peasants having small holdings by developing their farms through the establishment of many cooperative societies at and around Devapur in Satara District.

KARMAVEER BHAURAO PATIL
A CHRONOLOGY

1887 : **September, 22 :**
Born at Kumbhoj, Tal. Hatkanangale, District Kolhapur.

1902 : Joined 'Rajaram High-School' and 'Jain Boarding' Kolhapur.

1909 : Active Participation in the work of 'Shikshan Prasarak-Mandal', Dudhgaon.

1912 : Married to 'Adakka' (Laxmibai), the daughter of Shri Anna Patil, Kumbjoj.

1914 : King Edward's Statue—
'Tar Episode' (Kolhapur).
Sales Representative—Ogale Glass Works, Ogalewadi.

1916 : Sales Representative—Kirloskar Brothers Limited, Kirloskarwadi.

1919 : **October, 4 :**
Established the Rayat Shikshan Sanstha and opening a hostel at Kale, Tal. Karad, District Satara.

1920 : Pledges to wear Khaddar for life time.

1921 : Resigns services of Kirloskar Brothers Ltd., Kirloskarwadi.
Opens a hostel at Nerle, Tal. Walwa.

1924 : Shifts the headquarters of the Rayat Shikshan Sanstha from Kale to Satara and opens a cosmopolitan hostel.

1927 : **February, 25 :**
Naming ceremony of the hostel at Satara as 'Chhatrapati Shahu Boarding House' at the auspicious hands of Mahatma Gandhi, the Father of the Nation.

1932 : Opens a cosmopolitan hostel : 'Union Boarding House' in Poona, for college students.

1935 : Registration of the Rayat Shikshan Sanstha.
Opens a Training College for Primary teachers.

1936 : Opens 'Rao Bahadur Kale Practising School', Satara.

1938 : Forms 'Primary Education Committee' and opens the first voluntary Primary School at Yevateshwar, Tal. Satara.

1940 : Opens the first free and residential Secondary School : Maharaja Sayajirao High-School Satara.

1945 : Felicitations and presentation of a purse of Rs. 25,000/- by Merchants of Kolhapur.

1947 : Opens the first free and residential college : 'Chhatrapati Shivaji College', Satara.

1948 : Felicitations and presentation of a purse of Rs. 1,00,000/- by 'The Satara District Students' Congress', at the auspicious hands of Sant Gadge Maharaj.

: Felicitations and presentation of a Chevrolet car by his students.

1952 : Felicitations and presentation of a purse of Rs. 25,000/- by the workers of Kirloskar Borthers Ltd., Kirloskarwadi, at the auspicious hands of Hon'ble D.P. Karmarkar, Union Minister.

1954 : Opens the first college in rural areas :
'Sadguru Gadage Maharaj College', Karad

1955 : Opens a college of education at Satara.
Subsequently named in memory of Maulana Abul Kalam Azad as 'Azad College of Education'.

1959 : **January, 26 :**
"Padma-Bhushan" awarded by the President of India.

: **April, 4 :**
"D. Litt." conferred by the University of Poona.

: **May, 6 :**
Felicitations and presentation of a purse of Rs. 1,00,000/- by the people from Ahmednagar District.

; **May, 9 :**
Breathed his last in Sassoon Hospital, Poona.

: **May, 10 :**
Cremation ceremony at Char-Bhinti (Gandhi Tekadi), Satara.

First batch of the first Cosmopolitan Hostel of the Rayat Shikshan Sanstha, with the founder, Karmaveer Bhaurao Patil

The Great Saint of Maharashtra Shri Sadguru Gadage Maharaj with Dr. B.R. Ambedkar and Karmaveer

Karmaveer with Shri Y.B. Chavan who held the office of the President of the Rayat Shikshan Sanstha for 25 years after the Founder's demise

Prime Minister Rajiv Gandhi releasing a postal stamp in honour of the Karmaveer in New Delhi on 9th May, 1988

SENIOR COLLEGES CONDUCTED BY
THE RAYAT SHIKSHAN SANSTHA *(Contd.)*

Founder : Padma-Bhushan Dr. Karmaveer Bhaurao Patil

Swami Sahajanand Bharati College of Education, Shrirampur, Dist. Ahmednagar

Est. 1970

No. of Students : 167

Shri S.A. Anarase
PRINCIPAL

Shri Sadguru Gangageer Maharaj Science, Goutam Arts & Sanjeevani Commerce College, Kopargaon, Dist. Ahmednagar

Est. 1965

No. of Students : 3212

Shri B.R. Choudhari
PRINCIPAL

Annasaheb Awate Arts, Commerce, Hutatma Babu Genu Science College & Sou. Kusumben Kantilal Shah Arts, Commerce, Science Jr. College, Manchar, Dist. Pune

Est. 1966

No. of Students : 2195

Shri V.S. Rokade
PRINCIPAL

Maharaja Jivajirao Shinde College, Shrigonda, Dist. Ahmednagar
(Arts, Science & Commerce)

Est. 1982

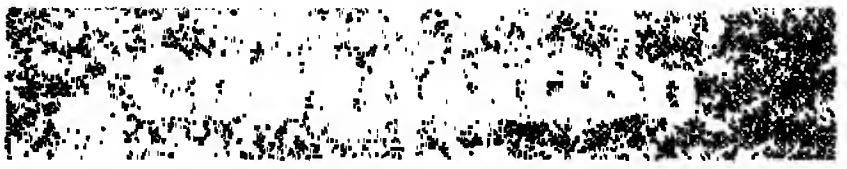
No. of Students : 1239

Shri N.G. Waman
PRINCIPAL

THE REAL CHALLENGE

Dr. M.R. Srinivasan, Chairman, Atomic Energy Commission and Secretary to the Govt. of India, Department of Atomic Energy, delivered the Convocation Address at the Fourteenth Convocation of Konkan Krishi Vidyapeeth. In his address Dr. Srinivasan stressed some of the emerging trends in Science that find application in increasing food production. He laid particular emphasis on the application of nuclear techniques and innovations in biotechnology in different areas of crop improvement and processing and preservation of foodstuffs. However, he observed, "our first priority should be to apply all our knowledge and scientific discoveries to overcome natural calamities, man-made shortages and faulty age-old techniques which are the stumbling blocks towards greater productivity". He said, "The challenges of today lie not in the fields of outer space or nuclear arsenals. No, the real challenge lies here in diseased hands held out for alms, in the hunger-stricken face of young children, in a parched land dying of thirst and a godown filled with pest infested grains. And who is better equipped to overcome these hurdles than you are today ? Let this then be your commitment, your tryst with destiny". Excerpts

In spite of the substantial growth in gross national product the growth of per capita income in the last forty years has been far less than what has been registered in a number of developing countries. The rapid increase in population compounded with an already large population base has been the principal reason for our inability to eliminate poverty and improve



living conditions significantly. It is unfortunate that in recent years this problem has failed to receive the kind of attention that it demands. In contrast, China which has a large population base and had a large growth rate has been able to come to terms with this problem. While we may not wish to adopt the coercive or compulsive methods of population control that China has adopted, it is essential that we reach a national consensus cutting across religions, regions, political parties and all sections of the intelligentia and the people at large. We should all unite to implement a policy which can within the next few decades reach a zero population situation. The present situation unfortunately does not give room for optimism that such a consensus is about to emerge but all of us who have any role in building up of public opinion must strive for reaching such a consensus. In addition to the question of large numbers of people, we also have in India the problem of rapidly increasing numbers of stray animals of all kinds. We appear to be reaching the limits of the biological resources to support such a large and increasing stray animal population.

Our country has been able to reach a marketable surplus of over 30 million tonnes of foodgrain. However, the last two years have witnessed weather aberrations, crop diseases and infrastructural limitation of scientific storage resulting in a drain in the buffer stock. At present total output is around 150 million tonnes which includes rice, wheat, cereals and pulses. A target of 178-183 million tonnes is envisaged during the end of 7th plan period. Production of oilseeds which stands at 13 million tonnes similarly needs to be increased to 18 million tonnes during the plan period. In order to overcome the existing constraints and accelerate the growth of production and productivity of cereals and pulses, research efforts have been intensified to develop high yielding varieties of wheat, rice and other major food crops.

Progress in breeding of crop plants depends upon selection of favourable combination of characters that are governed by genes and gene environment interactions. The heritable changes in DNA which are either naturally acquired or induced are known as mutations. In conventional plant breeding techniques, the desirable mutation available in germplasm collections are utilised to develop improved crop varieties. These represent spontaneous mutations that had occurred in the past and could survive in nature. The entire genetic variability within a species, which is referred to as gene pool, could be enhanced by available genetic techniques to produce desirable cultivated species. On the other hand a variety of plant species could be subjected to X-rays, gamma rays, beta rays, neutrons and chemical mutagens to produce induced mutations. The use of induced mutations in crop breeding programme is known as mutation breeding.

By far the most important application of nuclear techniques in the field of agriculture, which has high potential use in future, has been for improvement of crops. Induction of mutations employing ionizing radiations is a convenient technique for enhancing genetic variability in crop breeding programme. Several varieties of cereals, oilseeds, pulses and economically important plants like jute, with superior yields and resistance to disease have been evolved at Bhabha Atomic Research Centre (BARC) adopting the mutation breeding techniques. These mutants possessed desirable variations in leaf area, branching pattern, growth rate, partitioning efficiency cell size, protein and oil content. Any crop improvement programme generally involves five basic steps.

1. Identify and create genetically stable variations for desired traits (yield, disease and pest resistance, stress tolerance, etc.) ;
2. Select from these variations that individual(s) possessing ideal expression of desired traits ;
3. Incorporate the desired trait(s) to suitable agronomic background ;
4. Test for new variety over a wide range of habitat and for number of seasons, and
5. Release the new variety.

Based on these approaches, Nuclear Agriculture Division at BARC has developed improved varieties of pulses such as TAP-7 (Trombay-Akola Phaseolus-7), mung been; TAU-1 (Trombay-Akola Urid-1), black gram; Trombay-Vishaka-1 pigeon pea (Tur); and TAT-10 (Trombay-Akola Tur-10) pigeon pea. These varieties displayed early maturity and higher yields on field trails. They were found suitable for cultivation in the areas like Vidarbha in Maharashtra. In addition to pulses, groundnut TG-7 and Jute TJ-40 developed at BARC are included in the list of approved varieties. These certified seeds will be sold by the National and Maharashtra State Seeds Corporations. Besides these other strains of rice, groundnut, pigeon pea and black gram evolved at BARC are included in minikit for district trials at farmers' fields.

Recombinant techniques is another area in which giant strides have been made. As agricultural scientists you know that plant breeding is a laborious exercise, time consuming and requires extreme patience. It is both an art and a science. The division of labour in plant breeding is likely to be repeated and supplemented by newer biotechnologies which can be divided into two classes, culturing and gene transfer. Although genetic transfer is more promising for crop improvement than culturing, tissue culture techniques represent the limiting steps in the success of such transfer Genetic transfer can be made directly into cells, but these transformed cells are useless unless whole plants can be regenerated from them. Thus biotechnology and breeding in conjugation represent a powerful new force in creating product diversity to improve the outlook of agriculture. One can say that plant biotechnology is key to the next "Green revolution".

BARC scientists have developed expertise to eradicate the stem rust disease in wheat employing newer approaches of chromosome engineering. Two genes Sr-28 and Sr-27 from *Agropyron elongatum* and rye respectively providing resistance to stem rust were hybridized and transferred to Kalyansona wheat thus conferring high degree of disease resistance in this variety.

Efforts were also made at BARC towards crop improvement employing techniques of genetic engineering involving gene tranfer technology. More rightly called the recombinant DNA technology, the technique involves four main steps :

(a) isolation and identification of desired DNA sequence to be introduced,
(b) cloning or production of identical copies of such squences in bacteria,
(c) introduction of cloned DNA and its integration with the resident DNA in plant cells, and
(d) expression of the introduced genes.

The use of highly invasive vector like T_i-plasmid of the bacterium *Agrobacterium tumefaciens* enables scientists to insert bacterial genes into plants. This modern approach in using this genetic vector for transfer of desired gene(s) is in progress at BARC. Another important use of Agrobacterium is in the transfer of genes to plants to confer insect and disease resistance and tolerance to herbicides. By this method insecticidal protein genes obtained from *Bacillus thuringiensis* have been transferred to plants to evolve insect-resistant plants.

Genetic engineering has also opened new avenues to evolve a system wherein plants can use atmospheric nitrogen rather than nitrogen from soil. Plants are unable to directly use the dinitrogen (N_2) gas in the atmosphere. The very stable bond between the two nitrogen atoms of dinitrogen must be broken and the nitrogen should be convetted to nitrate or ammonia before it can be assimilated by plants. On the other hand, several lower organisms are capable of doing this with ease. The role of symbiotic bacteria from the genus Rizobium in improving pro-

ductivity of pulses and certain oil-seeds is widely recognised. Genetic manipulation of nitrogen fixing bacteria to increase the fixing efficiency several fold can lead to greater productivity in crop plants. The nif genes have been transferred by recombinant DNA techniques among microbes but it is yet to be seen whether scientists will be able to transfer such a system to higher plants.

The next frontier to be explored is that of tissue culture. Plant and cell culture techniques better known as tissue culture are exploited in continuously generating identical plants. Tissue culture is essentially reproduction of life in test tubes. The concept of tissue culture centres around the fact that the plant cell has genetic information and inherent ability to develop into a new plant provided it is supplied with the right conditions to express that capacity. The outstanding advantage of tissue culture technique is the propagation of true progenies, ensuring uniform growth and productivity behaviour for each species in a given agroclimactic environment through successive generations. The potential benefits of these culture techniques are far reaching. By allowing one to grow enormous number of different cells, all potential plants, in a small area, it permits one to screen a large number of cell in a very short time and the method simplifies crop developments in a quick time.

Many crops of economic value have received attention at BARC for exploitation by tissue culture methods. As mentioned earlier, since the country is faced with a shortage of edible oil, efforts are being made to develop oil palm by this technique. Tissue culture of oil palm was initiated by using young leaf segments. By carefully monitoring the nutrients and manipulating the concentrations of growth harmones, it was possible to introduce in the callus tissues the development of an infinite number of embryos. By meticulous alteration in the nutrient medium conditions were created to allow further growth of a large percentage of embryos into leafy shoots. After a second change in the medium for root promotion, the leafy shoots began to display full roots culminating in complete plants. Thereafter, tissue culture derived oil palm plantlets were transferred to soil, nurtured for 8 weeks and were established in pots and in field. Tissue culture techniques have also been developed for mass multiplication of mulberry. Under a collaborative agreement this technology has been transferred to the Central Sericulture Research Institute, Mysore. Besides oil palm and mulberry, technology has been developed for mass production of sandal wood trees.

Thus it is evident that tissue culture offers a valuable adjunct to plant improvement without resorting to conventional breeding methods such as hybridization. Fusion of cultured plant cells permit the development of unique hybrid plants impossible to achieve through conventional sexual hybridization.

We now come to fertilizers and pesticides. Since the requirements nutrients in agricultural crops vary considerably with the soil, climatic conditions, plant species, etc., precise knowledge is needed on the type, amount, method and time of application of fertilizers best suited for specific soil crop combinations. Use of isotope labelled fertilizer material permits such determination. ^{15}N and ^{32}P labelled materials will find increasing use in the evaluation of different nitrogenous and phosphate fertilizer. Studies carried out at BARC in this area are primarily aimed at evaluating the degree of water solubility desirable in phosphate fertilizers and on the efficiency of the nitrate against ammonia fertilizers, specially for rice. BARC has also developed a process for the enrichment of ^{15}N in the form of nitric acid which could be incorporated in fertilizers in minute amount. Production of this isotope has facilitated the testing of the efficiency of nitrogenous fertilizers.

The indiscriminate use of pesticides has become a common practice in Indian agriculture. However, there is a great concern regarding the impact on ecology and possible hazards arising out of residues finding way into man through food. Fungicides are widely used for treating seeds, soil and as foliar sprays for control of pathogens. During storage after harvest also insecticides are used routinely. Some of these chemicals are likely to persist and gain entry into foods such as vegetables, fruits, grains and processed foods. Isotope labelled fungicides and insecticides are useful in studying a wide variety of problems relating to persistence of these residues in plant parts and grains and their biodegradation pattern. Another development in this field is the identification of several biopesticides which are natural pathogens to which pest cannot develop resistance. *Bacillus thuringiensis* which is effective against more than 100 species of lepidopterans, is increasingly being used in making suitable insecticide formulations used in the agricultural sector.

And last but not least, advanced techniques of food presrvation will play a vital role in the Indian economy. I have stressed some of the emerging trends in science that find application in increasing food production. Here I have laid more emphasis on the application of nuclear techniques and innovations in biotechnology in different areas of crop improvement. I will digress

from this to another important aspect that is processing and preservation of available food for equitable distribution to human populations. What are the needs for better preservation methods? A conservative estimate puts a loss of 20-30% in food on account of attack by rodents, insects and microorganisms, of which many may be hazardous to health. The food losses due to unhygienic practices of handling and storage could be salvaged by means of dedicated application of scientifically proven methods of processing and preservation. This calls for improvement in post-harvest storage and preservation practices.

One of the more recent methods of preserving food is by application of ionizing radiations, which is often referred to as food irradiation. This is essentially a physical method. In this method the food item is exposed to either gamma radiations emanating from isotopes such as Cobalt-60 or Caesium-137 or electrons generated from linear accelerators. Food irradiation complements the presently available traditional methods that constitute a remedy against microbial and biochemical spoilage of foods. It also represents a unique process for food items that are not suited for heat treatment (e.g. fresh fruits and vegetables, grains, spices, etc.) or where there could be concern about hazardous residues from chemical fumigants. In addition food irradiation offers many advantages over conventional preservation methods. The advantages of food irradiation include:

(a) retention of freshness,
(b) suitability to process after packing,
(c) availability of hygienic food products possessing extended shelf-life,
(d) conservation of energy, and
(e) freedom from toxic chemical residues.

Research over the past twenty years in BARC has demonstrated the feasibility of a number of applications. Radiation processing has found potential applications in inhibiting sprouting of onions and potatoes (0.15 kGy), delayed ripening of fruits like banana and mango (0.5 kGy), disinfestation of grains like wheat (0.75 kGy), extension of shelf-life of fishery and meet products by suppressing the spoilage microflora (2.5 kGy), elimination of pathogens such as Salmonella and Vibrio from frozen sea foods like shrimps (4.0 kGy) and microbial decontamination of spices (10.0 kGy).

The feeding trials performed elaborately on animals with a variety of irradiated food products have conclusively demonstrated that ingestion of such food does not lead to any adverse consequence to health. Irradiated food is wholesome, hygienic and safe for human consumption. Extensive work done in India and similar studies from other countries regarding the safety and wholesomeness of irradiated food was carefully scrutinized by a joint FAO/IAEA/WHO Expert Committee. Their unanimous verdict was unconditional clearnce for any food irradiated upto 10.0 kGy and such foods need not undergo toxicological evaluation. Government of India has since approved in principle the adoption of the technique irradiation as a method of preservation of foodstuffs. A National Monitoring Agency under the Ministry of Health and Family Welfare was set up for dealing with all aspects of irradiated foods. National Monitoriing Agency has given clearance for irradiation of frozen sea foods and spices for export. At present 29 countries have accorded approval for the consumption of nearly 40 items of irradiated food products.

We have been dealing so far with efforts of scientists, associated with several national laboratories and universities in enhancing food production. However, the fruits of their research have not been passed on to the ultimate users completely. There exists a lacuna in the transfer of laboratory technologies to the land. In view of this, it is necessary that extension programmes handled by competent people who could interact both with scientists and farmers with ease should be provided greater impetus. The transfer of technology programme of ICAR involves four major programmes, namely, National Demonstrations, Operational Research Projects, Krishi Vigyan Kendras and Lab to Land Programmes. An attempt to give more emphasis to coordinate scientific farming overcoming the existing constraints based on traditional, cultural and economic aspects should stimulate higher output of crops. In addition to this, farmers should be given education regarding modern agricultural practices This education could provide scientific bases for institutional development, qualititative improvement in farm practices and manpower development. Education in terms of use of improved variety of seeds, better water management, application of proper fertilizers and pesticides, and study of soil structure would certainly create new awareness in farmers on proper use of their land.

In conclusion, I would like to remind you of Gandhiji's declaration that the future of India lies in her villages. It is a fact that even today these villages are almost entirely dependent on farming for their very existence. Therefore, our first priority should be to apply all our knowledge and scientific discoveries to overcome natural calamities, man-made shortages and faulty age-old techniques which are the stumbling blocks towards greater productivity. I had begun this address by saying that a convocation is a time for some advice and this is what I have to offer. No man is an island—it is only by working towards the common good that he can find fulfilment The challenges of today lie not in the fields of outer space or nuclear arsenals. No the real challenge lies here in diseased hands held out for alms, in the hunger-stricken face of young children, in a parched land dying of thirst and a godown filled with pest infested grains. And who is better equipped to overcome these hurdles than you are today? Let this then be your commitment, your tryst with destiny. □

University of Jodhpur

Academic Staff College

A PROFILE

Established with the help of UGC, as an independent Institute within the University system, the Academic Staff College of University of Jodhpur came into existence in January 1988. It draws up on all the resources available in the University of Jodhpur as well as other institutions and organisations of the country. It is specially built to attune University and College teachers to the requirement of their responsibilities in the changing world as also to develop in them skills and attitudes necessary for the realisation of their individual, occupational and organisational objectives.

Its catchment area is limited to the Universities of Jodhpur and Udaipur and their constituent colleges. Presently, the Government of Rajasthan has also attached degree and postgraduate colleges of Jodhpur, Bikaner and Udaipur divisions of Rajasthan to this college for the purposes of training.

The Academic Staff College has so far organised three "Four Weeks' Orientation Programmes" of newly recruited University and College Teachers. During the current session, four more Orientation Programmes are proposed to be organised.

The programmes have been designed to develop basically three types of skills among the participants, viz., Human Relations Skills, Pedagogical Skills, and Conceptual Skills. As such the programmes focus mainly on six areas :

1. Organisational behaviour and Personality Development,
2. Social, Political and Economic Environment of Education and the Indian Education System,
3. Philosophy of Education, and Responsibilities of College Teachers,
4. Educational Psychology,
5. Pedagogy of Effective Teaching, and
6. Management of Education.

In the programmes conducted so far, as many as eleven methodologies of training have been adopted. These are lecture cum-discussion, micro lab, role playing, group discussion, group work, In-basket exercise, case study, brainstorming, panel discussion, seminar and experiential learning through audio-visual techniques.

Broadly, the Staff College plans to organise five types of programmes in future :

1. Orientation Programmes for newly recruited university and college teachers;
2. Refresher courses to develop subject competency in university and college teachers;
3. Executive development programmes for college principals and administrative officers of the universities;
4. Specialised courses on Education Technology, Computers and Research Methodologies; and
5. Diploma courses in international languages like Russian, French and German

Academic Staff College also intends to promote research in "Effective College Teaching" and "Educational Administration" leading to Ph.D. degrees. □

Academic Staff College at JNU

The Academic Council of the Jawaharlal Nehru University is reported to have approved the setting up of an Academic Staff College to expose new entrants into the teaching profession to the development in knowledge, research methods and the processes of communication of knowledge to students. The proposed college would focus upon orientation programmes for teachers in respect of general academic environment as well as the developments in the field of their studies in specialisation.

Headed by a Director, the Academic Staff College shall have two-tier advisory bodies to guide its activities in respect of academic programmes. The General Advisory Committee shall advise on formulation of general direction and orientation of the teaching programmes including identification of subjects for upgradation training; all matters of policy programmes and on matters in regard to development, planning and creation of infrastructure. The Subject Advisory Committee shall formulate the general direction and structure of subject related programmes and prepare the module for the subject upgradation programme. This Committee shall also design the various courses in accordance with the availability of resources and the needs of the trainees.

The selection/nominations of trainees to the proposed Academic Staff College shall be on all-India basis since the University has an all-India responsibility in terms of the JNU Act.

The training at the college shall have, as far as possible, an inter-disciplinary focus and the methods adopted shall provide a healthy combination of natural sciences with social sciences and humanities.

The entire training programme would cover a period ranging between six and eight weeks. Until the college has gained sufficient strength and experience, it shall have only two modules—(a) General Orientation, and (b) Subject Upgradation. □

Centre for Women's Studies

Centre for Women's Studies of the University of Kerala is one of seven Centres originally recommended by the UGC Standing Committee on Women's Studies and one of the four Centres finally selected for UGC support. The Centre was started in November 1986 and was formally inaugurated in January 1987 by Smt. Margaret Alva, Union Minister for Women and Child Development. Dr. P.K.B. Nayar, Professor and Head, Department of Sociology of the University is the Honorary Director of the Centre.

The Main objectives of the Centre are :

(1) to function as a nodal agency for teaching, research, consultancy, training and extension in the sphere of women's studies and women's development in Kerala, (2) to act as a catalyst and force for conscientising men and women of all categories, classes and levels about women's issues in Kerala, (3) to disseminate information on women's position in Kerala for the purpose of policy and action and, for this purpose, (4) to promote solid and substantial library and documentation facilities and build up a strong data-base on women in Kerala.

To carry out the above objectives, the following programmes have been formulated (1) review existing curricula and courses of study in various disciplines with a view to build the women's dimension in them, (2) design courses and course materials in women's studies for teaching at all levels in the University in collaboration with discipline departments, (3) identify and prioritise issues concerning the position of women in Kerala, draw up a research agenda and carry out studies on priority agenda, (4) encourage the University academic community including the colleges to do research on these priority areas or on their areas of special interest in women's studies, (5) spread awareness and consciousness about women's issues among different categories and levels of people both within and outside the University system, (6) prepare reports on the status of women in Kerala and profiles of women in each of its districts, (7) Organise *Women's Development Units* in the colleges to mobilise their human resources for developing and strengthening women's studies and development programmes, and (8) promote extension in the community involving teachers, students and activist groups in the improvement of women and promotion of their interests.

Curriculum Development

Even before the Centre was formally established, the Academic Council of the University at its meeting in October, 1986 passed a resolution accepting the directives contained in the National Policy on Education, 1986 (Empowerment of Women) and the Programme of Action 1986. The resolution urged all the Faculties and Boards of Studies in the University to review and revise their syllabi to remove sexist bias and incorporate elements of gender justice for empowerment of women.

Armed with this resolution and with financial support from the U.G.C., the Centre organised a Workshop for teachers in the following disciplines at the undergraduate level—Economics, History, Islamic Studies, Politics, Psychology, Sociology, Law and Education—to revise the syllabi in their disciplines. The recommendations of the workshop were then placed before the respective Boards of Studies at their next meeting in September-October, 1987. All these Boards accepted the recommendations and they were then placed before the Faculties (Social Sciences, Education and Law). These Faculties also approved the recommendations. The recommendations then went before the Academic Council of the University at its meeting on May 27, 1988 and the Council approved of them *in toto*. It is expected that the new syllabi will be implemented from the academic year 1988-89.

There are two more steps required for the completion of the exercise at syllabus revision at undergraduate level in the above three Faculties. These are : (1) Collecting teaching aids and materials on the revised syllabi and placing them at the disposal of teachers, and (2) Orientation course to the teachers in the new philosophy and mode of teaching of the revised syllabi. These will be done discipline-wise in the current academic year.

Other Activities

On the initiative of the Centre for Women's Studies, a programme of encouraging the affiliated colleges to establish Women's Development Units in them has been taken up. The Government Women's College, Trivandrum has already established such a Unit and has approached UGC for financial assistance. The other two Women's Colleges in the city (NSS College for Women and All Saints College) have taken up the matter and will establish the Unit during this year

(1988-89). A Seminar for representatives from all the affiliated colleges will be held in September 1988 to conscientise the teachers on the need for such Units in their colleges and to help them establish these Units. The College Principals to whom circulars were sent on the subject have enthusiastically welcomed the idea and have nominated their representatives for the seminar. It is hoped that by the end of the academic year, all the affiliated colleges would have established Women's Development Units on lines contained in the UGC brochure "Women's Studies in Universities".

The Centre has acquired about 110 books for its library from the funds sanctioned by UGC. More books and Journals will be acquired during the current year.

The Centre also proposes to start publication of Journal entitled *Indian Journal of Women's Studies* for which clearance from the Registrar General of News Papers has been obtained. As soon as the University approval is received, the first issue will go to the readers.

The Centre will shortly organise a Workshop on Research Methodology in Women's Studies for actual and potential researchers in this area. This is expected to stimulate scientific approach to Women's issues and problems.

Fellowships for Studies in Canada

Shastri Indo-Canadian Institute has invited applications for two annual fellowships each in the areas of Social Sciences and Humanities, and Women in Developmen for the academic year 1989-90. The condidates for fellowships in Social Sciences and Humanities are expected to possess proven ability for research and teaching and to concentrate on a specific project of study in Canada from a comparative perspective on Canada-India topics. The fellowships are tenable for one academic term and the Institute well bear the cost of travel of selected scholars to and from the designated university. The Institute will also pay a maintenance allowance of Canadian $1500 per month for a maximum period of 4 months and a sum of Canadian $500 for purchase of books and personal effects. Selected candidates must undertake to leave for Canada by 1st September, 1989.

Fellowships in the area of Women in Development are open to senior Indian scholars for a lecture and research programme to help develop expertise in the area of Women in Development at selected Canadian universities. The candidates should be reputed scholars in India with demostrated ability for research and lectures on Women in Development and will be expected to assist individuals or groups in the development of research expertise on Women in Development in appropriate Canadian universities. The fellowships are tenable for one acadmic term (13 weeks) and the Institute will bear the cost of travel, pay a maintenance allowance of Canadian $2500 per month upto a maximum of 4 months and a sum of Canadian $500 for the purchase of books and personal effects. Selected candidates willing to take up the fellowship will be required to undertake to leave for Canada by Sept. 15, 1989. Applications inclusive of detailed bio-data, research proposals and list of lecture topics must reach the Institute latest by Nov., 1988.

Further details can be had from the Resident Director, Shastri Indo-Canadian Institute, 92, Golf Links, New Delhi-110 003.

Symposium on Acoustics

The Acoustical Society of India, in collaboration with the Department of Physics, Indian Institute of Science, Bangalore, will organise a special symposium on Acoustics on 25-28 October, 1988 in honour of Professor C.V. Raman's Birth Centenary. The Symposium will cover various themes in acoustics such as Musical Acoustics, Physical Acoustics, Speech and Hearing, Environmental Acoustics, Underwater Acoustics, BIO and Medical Acoustics, Chemical and Biological Applications, Architectural Acoustics, Vibrations and Noise, Acoustic Emission and N.D.T., Transducers and Marerials, Geo and Aero Acoustics, Acoustical Signal Processing, and Engineering Applications.

Nearly 150 scientists from all parts of the country and abroad are expected to participate in the Symposium. Special plenary seesions are also planned on musical acoustics, architectural acoustics and physical acoustics, of special significance to the work of Professor Raman.

Details with regard to participation in the symposium may be had from Prof. E.S. Rajagopal or Prof. S.B. Ramakrishna, Department of Physics, Indian Institute of Science, Bangalore 560 012.

Redesigning the Curriculum

The Bhavnagar University organized a two-day seminar on redesigning of the curricula, teaching methods and reformation of examination patterns. Attended by about 225 college and university teachers, the seminar suggested important changes in the first and second years' courses, reviving tutorial system, introduction of internal evaluation and developing question bank in science subjects.

Speaking on the occasion, the Vice-Chancellor Mr. Dolar Vasavada said that the University Grants Commission had asked the universities to revise the undergraduate curricula to make them job oriented and more relevent to the needs of the society. Greater emphasis had to be laid on designing new courses keeping in mind the implementation of New Education Policy at primary and secondary levels. He believed that as the seminar was a beginning of a long chain complex academic reaction, periodic progress made in each faculty would be monitored by the university.

In his inaugural address, Mr. B. K. Mehta, former justice of the Gujarat High Court, elaborated how teachers' interest and knowledge and their love towards the students helped in moulding the character of young generation. Prof. R. S. Trivedi, Chairman, Gujarat Higher Secondary Board, who delivered the Keynote address, said that the incentive and feedback system were absent in Indian universities. Monetary incentives were limited by financial constraints, while freedom, creativity and a feeling of academic romanticism were limited by inherited backwardness in administration and management.

Central Varsity Status for Jamia Millia

Parliament has recently approved a Bill seeking to make the historic Jamia Millia Islamia a full-fledged Central University. This will take effect from December this year.

Shri P. Shiv Shanker, Union Minister for Human Resource Development, who piloted the Bill, assured the House that historic and basic character of the national institution would be preserved.

All decisions regarding medium of instruction and examination would be taken by the university's executive council. Government would not interfere with its working in any way, he said.

Entrance Exam for ISM

The Indian School of Mines, Dhanbad, will hold Entrance Examinations for undergraduate admissions to different courses for the 1989-90 session on 6th and 7th May, 1989 at different centres of India. Further details can be obtained from the Deputy Registrar (Academic), Indian School of Mines, Dhanbad-826004.

Course in Computer Programming

Garware Institute of Career Education and Development affiliated to the Bombay University proposes to start a diploma course in computer programming and system analysis. The institute is planning to install a mini computer and offer advanced computer training programme in selected areas.

Three Indians Graduate from Space Varsity

Three Indians were among the 104 men and women from 21 nations who are reported to have recently completed an intensive nine-week study and research programme to become the first graduates of the International Space University (ISU) near Boston. The new university, based temporarily on the campus of the Massachusetts Institute of Technology (MIT), is a non-profit non-governmental organisation founded in April, 1987, to serve industrial, academic and governmental institutions concerned with space research and development. Its long-term goal is to become a worldwide centre for training space professionals.

The three Indians who all share an interest in space exploration and development, are N.M. Hirani, who received her MBA with a specialisation in international business from Wilfird Laurier University in 1988. Hari Mohan Saxena, a veterinary pathologist currently pursuing a Ph.D. degree in cancer immunology at Nottingham University in England and Madhu Thangavelu, an architect who is pursuing graduate studies in building science and architecture at the University of Southern California.

Literacy Award for Prof. Parikh

Prof. Ramlal Parikh, Vice-Chancellor of Gujarat Vidyapeeth, Ahmedabad, has been selected for the 1988 Nehru literacy award of the Indian Adult Education Association (IAEA).

The award has been given to Prof Parikh for his outstanding contribution to the promotion and development of adult and continuing education.

Prof Parikh was the Chairman of the Gujarat State Adult Education Board in 1977 when about 170 voluntary organisations participated in the national adult education programme in the state. He also served as Chairmain of the Standing committee of adult and continuing education of the University Grants Commission from 1979 to 1982.

The Tagore memorial award for women's literacy has been awarded to Mrs Anurupa Mukherjee, founder-president of the Tripura Adivashi Mahila Samiti, Agartala.

Mrs Mukherjee has been chosen

for her pioneering role in eradicating illiteracy among tribals, and backward classes of women in Tripura.

She has the distinction of achieving cent per cent literacy in about 20 villages of the state in the face of heavy odds.

Hardwari Lal Heads ICAR Panel

Mr Hardwari Lal, M.P. and former Vice-Chancellor, Maharshi Dayanand University, Rohtak, has been appointed Chairman of a committee constituted by the Indian Council of Agricultural Research (ICAR) to monitor the performance of the agricultural universities in the country. The committee will visit various agricultural universities in the country with a view to looking into the relevance of research and education programmes.

The other members on the committee are Mr. Pratap Rao Bhale M.P., Mr. G.C. Juneja, former FAO Consultant, and Dr. C. Prasad, Deputy Director-General (AE). Dr. Prasad will act as Member-Secretary of the committee.

Vegetable Seed Extracting Machine

Dr. S R. Verma, Senior Research Engineer (presently working as Chief Adviser at the National Centre for Agricultural Mechanization, Ilorin, Nigeria) and Dr. Hari Singh, Senior Seed Production Scientist of the Punjab Agricultural University (PAU) have designed and developed an 'Axial-Flow Vegetable Seed Extracting Machine' for extracting seeds from the fruits of different vegetables, namely, tomato, brinjal, chillies, cucumber, watermelon, squashmelon, longmelon, etc. The machine, developed with the financial assistance of ICAR, works on the principal of "wet seed extraction" and uses freshly harvested ripe vegetable fruits.

The vegetable Seed Extracting Machine comprises frame, feeding chute, primary chopping chamber, crushing chamber, seed collecting chamber, shaft, seed outlet, pulp (waste material) outlet and centrifugal pump. Vegetable fruits are cut into small pieces with blades in the primary chamber and crushed finely by means of axially arranged blades fixed to rotor shaft. Apart from the blades, conveying rakes are provided in two rows on the shaft which move the pulp and waste material along with the shaft length to eject out the waste material from the waste outlet. The flow of material through the machine is axially to rotor shaft. Three pipes at 2.5 cm diameter and with holes, one on either side and one on the top cover of the machine, spray water under pressure by a small centrifugal pump. A continuous flow of water through the holes of these pipes must be ensured for the proper working of the machine. Sufficient water should be available at the site of the machine, and as such the machine should preferably be installed near a tubewell. The water flowing through the seed outlet should be recycled into the machine since it may block the holes of the pipes. The water sprayed washes out the seeds and some fraction of the finely crushed fruit material, which passes through the openings of the concave screen provided at the crushing chamber is ejected out through the seed outlet. Concave screen can be easily removed and refixed to suit seed sizes of different vegetables small (5 mm), medium (10 mm) and large (12.5 mm) openings. Vegetable Seed Extracting Machine is operated with 2 h.p. electric motor. Three persons are required for its working, two for feeding vegetable fruits and one for removing the pulp from the screen placed below seed outlet on a tub. The water containing finely crushed seed material is collected in a trough. Seeds are separated by decantation of water from the trough. Seeds being heavier settle down and remain at bottom of the trough. Fresh water is added 2 to 3 times to get clean seed and every time water is removed by decantation. The seeds thus obtained are sun dried in thin layers.

Tomato seed needs special treatment since it is surrounded by mucilaginous material. Therefore, the extracted seeds should be dipped in a solution of concentrated hydrochloric acid (commercial grade) at the rate of 8 to 10 ml per kg for 15 to 20 minutes. The mixture should be continuously stirred. Thereafter, the seeds should be thoroughly washed with water. The seeds are dried under the sun in thin layers.

The machine can extract seeds at the rate of 5.49, 3.78, 9.42, 4.68, 3.60, 6.60 and 1.42 kg seeds per hour of brinjal, tomato, chillies, summersquash, watermelon, squashmelon and cucumber respectively. Maximum seed loss to the extent of 5.86 per cent in tomato followed by 5.0 per cent of cucumber was observed. Seed germination is higher with mechanical extraction in comparision to manual extraction.

Wheat Research Workers Workshop

Dr. N.S. Randhawa, Director General of Indian Council of Agricultural Research (ICAR) said, "There is a large gap in productivity levels of important wheat growing states ranging from 1146 kgs/hec. in M.P. to 3530 kgs/hec in Punjab. Therefore, the problems in low productivity in some of states need to be carefully reviewed and action plan needs be worked out for future". Dr. Randhawa was inaugurating the 27th All India Wheat Research Workers Workshop held at Haryana Agricultural University (HAU). He urged upon the scientists to redouble their efforts in combining valuable genes for generating more efficient genotypes in wheat crop.

Referring to future problems Dr. Randhawa said, "In intensive agricultural areas liks Punjab, Haryana and Western Uttar Pradesh soil health problems have become serious. The deficiency of different nutrients such as phosphorus and zinc have become common. Reports of deficiency of micronutrients are appearing from different parts of Punjab and Haryana. Spread of alkalinity and salinity is another alarming situation."

Dr. Swarup Singh, Vice-Chancellor, HAU who presided said that there could be no lasting solution to the food problems of the world until a permanent balance was established between food production and human population. Population throughout the world had doubled between 1930 and 1975, and still the rate of increase was very high. Therefore, we cannot afford to relax on the food effort to revolutionize agricultural production by developing improved technology.

Dr. Singh asked the scientists to encourage leguminous crops as they help in fixing substantial amount of nitrogen in the soil and also provide nutritive food and forage. He said scientists should also make concerted efforts to develop effective nitrogen fixing symbionts in cereals. Rice farmers in China have effectively used a symbiotic system based on the floating water fern Azoll spp. which harbours a nitrogen fixing blue green algae which fixes substantial quantities of nitrogen. Such interesting discoveries deserve additional intensive research in this field.

He reminded the scientists that the increase in labour cost and static budget provisions have added to the problems. Therefore, reorientation in research approaches is needed to cut down the expenditure but without any deviation from the basic objectives.

About 300 delegates from all over the country and Australia, Afghanistan, Mexico, Nepal, Bhutan, etc. participated in the four-day workshop.

Rabi Fodder Workshop

Dr Harbhajan Singh, Director of Animal Husbandry, Punjab, while addressing a two-day workshop on 'Rabi Fodder Production and Conservation' held at the Punjab Agricultural University (PAU) said that Punjab produced 10 per cent of the total milk production of the country

INTER-UNIVERSITY YOUTH FESTIVALS 1988-89

Zone	Venues	Dates	Contact Cultural Coordinator
East	Sambalpur University, Sambalpur (Orissa)	Oct. 12-15, 1988	Dr. K.C. Dash NSS Coordinator Sambalpur University Sambalpur
South	Bharathidasan Univ., Tiruchirapalli Tamil Nadu	Oct. 25-28, 1988	Prof. H. Md. Salahudeen NSS Coordinator Bharathidasan Univ., Tiruchirapalli
North	C.S. Azad Univ. of Agriculture & Technology, Kanpur U.P.	Nov. 13-16, 1988	Dr. D.C. Kulshrestha Dean, Students' Welfare C.S. Azad Univ. of Agriculture & Technology, Kanpur
West	Devi Ahilya Vishwavidyalaya, Indore (M.P.)	Nov. 20-23, 1988	Dr. R.K. Dubey, Dean, Students' Welfare, Devi Ahilya Vishwavidyalaya, Indore
National	Indian School of Mines, Dhanbad	Jan. 31 to Feb. 4, 1989	Prof. R.K.S. Chouhan Dean, Students' Affairs Indian School of Mines, Dhanbad

and was much ahead in milk production as compared to the other States of the country. He pointed out that non-availability of certified seeds of different fodder crops in sufficient quantity was a big bottleneck in fodder production and exhorted the PAU experts to devise a matching technology for enhancing the fodder production. Dr. Singh urged that a bulletin on cultivation, care, seed production and preservation of fodders be published for the information of field workers and fodder growers of Punjab. He emphasised that specific fodder production technology be devised for the economically backward Kandi areas of the State where scarcity of fodders was hampering the animal husbandry development programme.

Dr. Sukhdev Singh, Vice-Chancellor of the PAU in his inaugural address, said that since it was not possible to enhance the area under fodder, it was necessary to increase production per unit area to provide green fodder in ample quantity to the farm animals. The Vice-Chancellor exhorted that the farmers should be educated about proper cultivation and care of fodders on scientific lines and their preservation in the form of hay and silage. Dr. Sukhdev Singh emphasised the need of feedback by the field staff to help streamlining the research work at University. The State Government was advancing liberal loans to the educated youth for setting up dairy farms, he added.

Dr. K.S. Nandpuri, Director of Research of the PAU while highlighting the research activities in respect of rabi fodder crops said that livestock population of Punjab was 6.4 million adults whereas the State produced 39 million tonnes of green fodder. From the present production, he said, about 15 kg of green fodder was available per animal per day against 40 to 45 kg needed per day. Dr. Nandpuri further observed that BL 22, a late maturing variety of Berseem recommended for North-Western and temperate zones, had outyielded S-99-1 and Mascavi by a margin of 26.9 and 17.2 per cent in green fodder yield and 36.7 and 27.2 per cent in dry matter yield respectively. This variety was more resistant to stem rot disease. He said that OL 256, a promising strain of oats, yielded 690 quintals of green fodder and 122 quintals, of dry matter and 31.7 quintals seed per hectare. Dr. Nandpuri added that Berseem or Lucern or Rye green hay could be used for replacing costly concentrate and that 1300gm of Berseem/ Lucern/Rye grass could replace 1 kg concentrate mixture in growing and lactating dairy animals. Silage from winter maize stover can be prepared by spraying 500 gm urea+ 1.5 kg molasses along with 10 to 15 litres of water per quintal stovers. Such silage becomes complete maintenance ration for adult dairy animals, he said.

SENIOR COLLEGES CONDUCTED BY
THE RAYAT SHIKSHAN SANSTHA *(Contd.)*
Founder : Padma-Bhushan Dr. Karmaveer Bhaurao Patil

Rajarshi Chhatrapati Shahu College, Kolhapur
(Arts, Science & Commerce)

Est. 1961

No. of Students : 1032

Shri A.H. Garud
PRINCIPAL

R.B. Narayanrao Boravake College, Shrirampur, Dist. Ahmednagar
(Arts, Science & Commerce)

Est. 1960

No. of Students : 2047

Shri P.A. Panwal
PRINCIPAL

Science College, Lonand Tal. Khandala, Dist. Satara

Est. 1986

No. of Students : 99

Shri D.G. Mahanvar

PRINCIPAL

Pandharpur College, Pandharpur, Dist. Solapur
(Arts, Science & Commerce)

Est. 1960

No. of Students : 3596

Shri N.N. Bhagare

PRINCIPAL

Arts & Commerce College, Madha, Dist. Solapur

Est: 1970

No. of Students : 653

Shri D.B. Pathan
PRINCIPAL

Balwant College, Vita Tal. Khanapur, Dist. Sangli
(Arts, Science & Commerce)

Est. 1963

No. of Students : 1424

Shri M.M. Kadam
I/C. PRINCIPAL

BOOK REVIEW

Limited, But Useful

Ramachandran C.M. Problems of Higher Education in India 263p. Rs. 160.00 Delhi, Mittal Publications.

M.V. Pylee*

The title of the book, Problems of Higher Education in India, is misleading as nowhere in the book the author claims to deal with the problems of higher education in India as a whole. In fact, the book deals with problems of higher education in the State of Kerala only. However, even here, it deals with only a segment of higher education in the State, namely, the Arts and Science Colleges with special reference to financing of these institutions. That means the study does not touch the problems of higher education in the State in the fields of technology, medicine or agriculture.

Again, a study which claims to deal with problems of higher education cannot confine itself to any two of these problems, namely, the problem of size, i.e., the explosive growth in the number of these institutions in a relatively short period of time and the evil consequences of such growth, and the financing of these institutions which has become a big burden on the rather poor resources of the State. The study does not attempt to deal with the many other important and relevant complex problems of higher education in the State; for that matter, indeed anywhere else in India, such as the erosion of credibility and functional utility of higher education, politicisation of the college and university campuses, unionisation of students, teachers and the non-teaching employees, unrest and violence in the campuses often resulting from the so-called popular elections to student unions, erosion of university autonomy as a consequence of political and administrative interference from above, the breakdown of the examination system, poor quality of research, lack of basic facilities such as libraries, laboratories, play grounds, etc., indiscipline of every conceivable form, low morale, frustration and indifference among teachers of all categories and several others. Any study which deals with problems of higher education in India can ill-afford to ignore an analysis of these problems. The fact that the book under review has not dealt with them is a serious drawback of the study. But then, it may be difficult to deal with all these problems in the same study.

More specifically, the study has analysed the development of higher education in the State of Kerala in general with special reference to the growth of Arts and Science colleges since the formation of the State in 1956. Prior to that year the Malayalam-speaking southwest region of India which constitutes the present Kerala State was under three political systems, the Princely State of Travancore, the Princely State of Cochin and the British Indian District of Malabar which formed a part of the old Madras Presidency. Even though fast expansion in the size of higher educational institutions is an all-India phenomenon since Independence, the magnitude of the problems due to expansion might vary from State to State and is found to be influenced by the socio-political conditions of each State. Hence the author rightly justifies a separate study to pin point the salient features of higher education in the State of Kerala.

In the first chapter a description of the study is given in terms mainly of its objectives, its methods and sources of data. The second chapter deals with a brief report of the researches undertaken so far with a view to analysing the various aspects of higher education in the country as a whole as well as some other countries of the world. The third chapter traces the history of the development of higher education in India as a whole. Chapter four deals with the development of higher education in Kerala focussing attention on the problems it generated in the course of its growth. Within a period of less than twenty years (1957-76) the number of Universities and Arts and Science Colleges which form the core of the system of higher education, had made a spectacular growth. It also analyses the enrolment trends in the University Departments and in Arts and Science Colleges during the same period.

The trend of growth in public expenditure on education in general, focussing attention on the various aspects of the revenue and expenditure of the Universities and Arts and Science Colleges, is the subject matter of chapter five. The public expenditure on education

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including higher education has been rising year after year during the period of study. Nearly forty per cent of the State's revenue has been spent for the maintenance of educational institutions in the State. But in spite of this large allocation of funds, higher educational institutions in the State are facing difficulties due to lack of sufficient finance to meet their increasing needs.

The conclusions of the study briefly are the following : The development of modern education began in the former State of Travancore in the beginning of the nineteenth century and the neighbouring State of Cochin followed the example of Travancore soon thereafter. As far as the former District of Malabar was concerned, the introduction of modern education began somewhat later, towards the end of the first half of the century. However, when these three political units were brought together in 1956 as a result of the recommendations of the States Reorganisation Commission, there were only 46 Arts and Science Colleges in the State as a whole under one university, the University of Kerala. By 1975, the number of universities had increased to four and the number of Arts and Science Colleges to 128. The increase had taken place due to the increased social demand for higher education from the parents, the students community and the general public. However, the analysis of the nature of this growth brings out the fact that the starting of more and more new colleges was done without sufficient forethought and planning. The district-wise distribution of these colleges and the population served by each college, show that in certain districts like Quilon, Palghat, Calicut and Cannanore, the number of colleges was less in relation to their population in the average. Whereas there was a college to serve 1.46 lakhs of people in the District of Trivandrum and one for 1.16 lakhs in the District of Kottayam, on an average there was only one college for 3.72 lakhs in the District of Cannanore, one for 2.40 lakhs in the District of Palghat and one for 2.34 lakhs in the District of Calicut. The author concludes that had there been an authority which could control the establishment of colleges purely on academic considerations ignoring political pressure of popular demand, this kind of haphazard growth would not have taken place in the State.

Another important aspect of this expansion is that, more than 82 per cent of the Arts and Science Colleges in the State are under private management. Though the initiative and drive of the various private voluntary organisations in the State have contributed to the speedy development of collegiate education in the State, the financial assistance rendered on the basis of the grant-in-aid code which was in existence from 1962 to 1972 also encouraged these organisations to start educational institutions of all kinds. The financial burden of the government was further increased with the introduction of direct payment of salary to the staff under the private management with effect from 1972.

There were only about 25 thousand students for general education courses in 1957-58 but their number increased to 1.76 lakhs by 1975-76. The average annual rate of growth of enrolment was about 11.8 per cent during the period under study. Even though in two or three years, enrolment showed a decreasing trend over the preceding years, it can only be considered as a temporary phenomenon. The ever increasing pressure for admission to the colleges of general education may lead to further expansion of the size of the system and may aggravate the financial crisis by way of demanding a still higher share of the State's revenue, unless some bold steps are taken by the Government.

Public expenditure on education has been growing very rapidly in the State of Kerala. A sum of Rs. 1037 lakhs which comes to 31.5% of the total revenue was spent on general education in 1957-58. The total expenditure increased to Rs. 13,226 lakhs by 1975-76 which comes to 37.3 per cent of the total expenditure of the State. Though the percentage of annual increase was not high, in absolute terms the increase was to the tune of 1175 times. The index of growth during a period of less than twenty years was 1275. The average annual expenditure on education during the period of study was about 34 per cent of the State's total budget.

The factors responsible for bringing this tremendous increase in educational expenditure are many and varied. The political, social and economic changes that have been taking place in Kerala, as elsewhere in the country during the post-Independence period, might be responsible for this. Pressure on popular governments in the State and at the Centre compelled them to divert an enormous amount of money for meeting the expenditure on education. These fast changes reflected in the sphere of education with the demand for more number of institutions and more number of places in the existing ones. The result was the starting of more number of institutions at all levels of education, including higher education. The enrolment in institutions also

rose considerably. Thus the expansion in the size and increase in number were the primary causes which demanded an enormous share of the State's revenue. As a part of the developing economy, the economic scene in Kerala was also affected by the All India phenomenon of rising prices and the consequent fall in the value of money. which acted as another factor which boosted the expenditure on education. The improvement in the salary structure of the teaching community in general, the increase in the prices of laboratory equipments, library books, stationery articles and the attempt to bring some qualitative improvement in education by way of conducting summer institutes and other in-service training programmes, revision of syllabus and textbooks etc. are the other factors which led to increase in the expenditure on education.

The expenditure on education has been increasing year after year when compared to the developmental expenditure of the State. The average annual expenditure on education was about 40.7 per cent of the total developmental expenditure of the State. Whereas the total public expenditure on general education was increasing year after year, the corresponding return on this huge investment towards the revenue of the State government was only very low during the period under study. The receipts under education were about 3.6 per cent of the total revenue receipts of the State in 1957-58 but decreased to as low as 2.3 per cent in 1975-76, whereas the total public expenditure on general education during this year was to the tune of Rs. 13,226 lakhs. It is due to increasing subsidies offered by the government in the form of free secondary education to all and a number of fee concessions at the higher stages of education.

Not only the receipt from educational institutions was very low when compared to the total receipts of the State government from various other departments but are also very low when compared to the investment of the same department. The average annual receipts formed only about 8 per cent of the average annual expenditure on education.

While the overall expenditure was increasing at a faster rate on account of expansion in size and explosion of numbers, the expenditure on university education, viewed separately, also showed a phenomenal increase. When the total expenditure showed an increase of 1,175 times more than that of the amount spent in 1957, the share of higher education increased by 2,861 times over the 1957 amount. The total expenditure was only Rs. 52.98 lakhs in 1957, but it increased to Rs. 1,568.79 lakhs by 1975-76, showing an index of growth of 1961. The expenditure on higher education was only 6 per cent of the overall expenditure on education in 1957 but it constituted 11.9 per cent in 1975-76.

The bulk of the public expenditure on higher education was spent for the development and maintenance of Arts and Science colleges in Kerala. The total direct expenditure on these colleges in 1957-58 was only Rs. 22.22 lakhs, which formed about 41.9 per cent of the overall expenditure on higher education. An amount of Rs. 1,262.93 lakhs was the direct expenditure on Arts and Science colleges in 1975-76 which constituted 80.5 per cent of the total expenditure on higher education during this year. Thus expenditure showed tremendous growth both as a percentage of the total expenditure on higher education as well as in absolute terms. The average annual growth of expenditure on these colleges was 31 per cent during the period under study, whereas the average annual expenditure was about 57.2 per cent of the overall expenditure on higher education.

It has already been pointed out that the teaching and nonteaching staff of the private colleges are paid from the public exchequer and this brought a sudden increase in the expenditure on the part of the Government with effect from 1.9.1972. Moreover, grants are paid for the improvement of laboratory, library and for the maintenance of the college buildings as well as some contingency grant to meet the miscellaneous expenditure of the institutions. Though the agreement signed with the Private College Managers' Association and with the private College Teachers' Organisation in 1972, enabled the government to exercise its control over the affairs of these colleges, it was at the expense of bringing additional financial burden on it.

The development of higher education in the State during the period under study and the spectacular increase of expenditure on higher education as a whole was the result of a "series of ad hoc decisions which were more in the nature of reactions to given situations and the ever shifting balances of pressure based on pragmatic considerations of the immediate present rather than the result of conscious policy and endeavour based on any particular approach to higher education or attempts to evolve desirable levels of expenditure consistent with the returns to the State and society in comparison with alternate channels of utilisation of scarce resources or the growth of the economy itself. In a sense, the State has been following the "social demand approach of attempting to satisfy the ever increasing appetite

for higher education by year to year decisions, relating to new institutions totally ignoring the basic fact that such a policy is appropriate only in a State which does not have the problem of resource constraints". Had there been a proper administrative machinery at the State government level to plan the development of higher education after assessing the need of a locality for a college, this unplanned growth would not have taken place in the State. At present no department under the government conducts a proper survey of the growth of enrolment in the higher educational institutions, the expenditure incurred on colleges, the return from investment on higher education etc. The Directorate of Collegiate Education looks after the affairs of the Arts and Science and other professional colleges under it. The universities are concerned about the academic matters of the colleges. In practice, planning and development of higher education at the State level does not receive proper attention from the Department of Higher Education.

On an examination of the various sources of revenue and the amount contributed by each source towards the total income of the college, it was revealed that the maximum share of revenue was contributed by the State Government during the period under study. Next in importance comes the revenue received from fees from the students. U.G.C. is another important contributor. The receipts from the General Administration Departments, Government of India and other miscellaneous sources of revenue occupies a less important place when compared to other sources.

The study reveals that out of the total expenditure on higher education the average annual expenditure on universities was about 22 per cent. As far as the income of the universities was concerned, the average annual income from the State Government during the period under study was about 27 per cent and 12.6 per cent was the average annual contribution of the U.G.C. during the same period. The rest of the income comes from other sources like grants from Government of India, fees from students and receipts from the general administration.

On the whole, this is a good historical cum normative study which highlights the unplanned and haphazard manner in which higher educational institutions have been set up in the State and how they have become too much of a burden on the scarce financial resources of the State with no corresponding impact on the alround development of the State. On the contrary, it has been responsible for the creation of an ever increasing army of the educated unemployed and the consequent social evils that result from such a situation. If a reasonable share of the investment was made for the development of technical education in the State, Kerala would not have witnessed the sorry spectacle year after year of thousands of young people going out of the State in search of seats in medical and engineering colleges by paying huge sums as capitation fee.

It is regrettable that a study like this contains numerous mistakes of language and spelling. I would consider this a serious editorial lapse. For, a good publisher should see to it that such mistakes do not mar the quality of the book. The book does not also follow a uniform or standard system of giving references. Names of authors and others cited are given in a loose manner not accepted by any standard reference system. For instance, Sri, Mr., Shree, Dr., Professor, etc. are used indiscriminately at many places. Even the names of some well known personalities have been wrongly spelt. For example, C.P. Ramaswamy Iyer is given as C.P. Rama Swamy Aiyar and Adiseshiah, M.S. as Adi, Seshiah, M.S. The price of the book is prohibitive. A book of 263 pages priced at Rs. 160, is by any standard exhorbitant indeed.

CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/Officer to be contacted
September 26-28, 1988	**International Conference on Welding Technology in Developing Countries**	**To provide an opportunity to scientists and technologists from developing and advanced countries to share their experiences in the area of Welding Technology.**	**University of Roorkee, Roorkee.**	**Prof. P.C. Gupta, Organising Secretary, International Conference on Welding Technology in Developing Countries, Department of Mech. & Ind. Engg., University of Roorkee, Roorkee-247667**
October 27-29, 1988	National Seminar on Statistics in Medicine, Health and Nutrition.	To discuss Data-Base and Analysis in Health and Nutrition—Present and Future.	Department of Statistics, National Institute of Nutrition, Hyderabad.	Dr. K. Visweswara Rao, Organising Secretary, National Seminar on Statistics in Medicine, Health and Nutrition, Department of Statistics, National Institute of Nutrition, Indian Council of Medical Research, Jamia Osmania, Hyderabad-500 007
October 31-Nov. 4, 1988	Short Term Course on Remote Sensing and Geo-Data Base with Socio Economic Information	To expose the concept of Data Base Approach towards handling and analysing the Remotely Sensed and Land-based Information.	Centre of Studies in Resources Engineering, IIT, Bombay.	Dr. T.V. Pavate Chief Project Engineer, Training Extension and Project Cell, RSD-VI, CSRE, IIT, Bombay-400076
December 13-17, 1988	**International Seminar on Education and Training in Water Resources in Developing countries.**	**To assess the requirements of manpower, education and training in Water Resources Sector upto the year 2025 in the developing countries.**	**Central Board of Irrigation and Power, New Delhi.**	**Mr. C.V.J. Varma, Organising Secretary, International Seminar on Education and Training, Central Board of Irrigation and Power, Malcha Marg, Chanakyapuri, New Delhi-110021**
December 15-17, 1988	National Conference on Fluid Mechanics and Fluid Power	To provide a forum for exchange of information on topics in fluid mechanics and design, research and development activities in areas like power generation, aerodynamics, fluidics, biomechanics, etc.	Harcourt Butler Technological Institute, Kanpur.	Dr. N.L. Kachhara, Organising Secretary, 16th National Conference on Fluid Mechanics and Fluid Power, Mechanical Engineering Department, Harcourt Butler Technological Institute, Kanpur-208002

SENIOR COLLEGES CONDUCTED BY THE RAYAT SHIKSHAN SANSTHA *(Contd.)*

Founder : Padma-Bhushan Dr. Karmaveer Bhaurao Patil

Commerce College, Mokhada, Dist. Thane

Est. 1984

No. of Students : 164

Shri H.R. Madavi
PRINCIPAL

Modern College, Washi, New Bombay
(Arts, Science & Commerce)

Est. 1979

No. of Students : 1323

Shri V.D. Patil
PRINCIPAL

AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The Library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month', while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research Scholars and students of education are welcome to use these resources. The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

ADDITIONS TO AIU LIBRARY

Aggarwal, J.C. *National Commission on teachers I—school teachers and the National Commission on teachers II—Higher education 1983-85 : Major recommendations.* Delhi, Doaba House, 1988. 64p.

———. *Teacher's role, status, service conditions and education in India : A reference manual, with special reference to Committees and Commissions.* Delhi, Doaba House, 1988. xvi, 319p.

Aggarwal, Y.P., ed. *Research in emerging fields of education : Concepts, trends and prospects.* New Delhi, Sterling (c 1988) xvi, 304p.

Association of Indian Universities, Delhi. *Handbook of engineering education.* New Delhi, Author (c 1988) xiv, 316p.

———. *Report of the Task Force on autonomous colleges and departments.* New Delhi, Author, 1988. 821p.

Atmanand. *Financing of education in India : A case study of Bihar.* New Delhi, Commonwealth Publications, 1988. x, 145p.

Aykroyd, Peter. *International gymnastics : Sport, art or science.* London, Kingswood Press (c 1987) 173p.

Bacchus, Kazim and Brock, Colin, ed. *Challenge of scale : Educational development in the small states of the commonwealth.* London, Commonwealth Secretariat (c 1987) i, 164p.

Bray, Mark. *Are small schools the answer ? : Cost-effective strategies for rural school provision.* London, Commonwealth Secretarat, 1987. 89p.

——— *New resources for education : Community management and financing of schools in less developed countries.* London, Commonwealth Secretariat, 1986. 88p.

Cardozier, V.R. *American higher education : An international perspeetive.* Aldershot, Avebury (c 1987) xii, 209p.

Chisman, Dennis. *Practical secondary education : Planning for cost-effectiveness in less developed countries.* London, Commonwealte Secretariat, 1987. 72p.

Commonwealth of learning —institutional arrangements for commonwealth co-operation in distance education : Report of the Working Group. (Chairman : J. S. Daniels) London; Author (c 1988) 30p.

Dirix, A. and others, ed. *Olympic book of sports medicine.* Oxford, Blackwell Scientific Publications (c 1988) xii, 692p.

Dube, S.C. *Modernization and development : The search for alternative paradigms.* New Delhi, Vistaar Publications (c 1988) viii, 144p.

G. Ramesh. *Aestheties and education.* New Delhi, South Asian Publishers (c 1988) vi, 188p.

Gambhir, Vinod K. *Scholarships handbook.* Delhi, Dynamic Business, 1987. 210p.

Guttmann, Allen. *Sports spectators.* New York, Columbia University Press (c 1988) viii, 236p.

India. University Grants Commsssion, *Report for the years 1986-87.* Delhi, Author, x 1987. ix, 196p.

Indian Law Academy, Lucknow. *Latest law report for administration in Indian universities 1987.* Lucknow, Author, 1987. 1108p.

Jones, Phillip W. *International policies for third world education : Unesco, literacy and development.* London, Routledge (c 1988) 274p.

Mayhew, Arthur. *Pre-independence educational policy of India.* New Delhi, Archives Books, 1988. xii, 306p.

Oak, A.W. *Status of women in education.* Ambala Cantt, Indian Publication, 1988. 176p.

Padhy, K.S. and Mahapatra, Jayashree. *Reservation policy in India.* New Delhi, Ashish Publishing House, 1988. xiii, 150p.

Pandey, P.N. *Education and social mobility : A text with reference to scheduled castes.* Delhi, Daya Publishing House (c 1981) vi, 198p.

Ramabrahmam, I. *Adult education policy and performance.* Delhi, Gian (c 1988) x, 230p.

Riordan, James. *Sport in Soviet society : Development of sports and physical education in Russia and the USSR.* Cambridge University Press (c 1977) ix, 435p.

Shukla, P.D. *New education policy in India.* New Delhi, Sterling (c 1988) vii, 157p.

Uplaonkar, Amharao T. *Social background and occupational aspirations of college studies.* Delhi, Ajanta, 1988, xii, 295p.

Woodhall, Maureen. *Lending for learning : Designing a student loan programme for developing countries.* London, Commonwealth Secretariat (c 1987) 111p.

THESES OF THE MONTH

A List of Doctoral Theses Accepted by Indian Universities.

HUMANITIES

Philosophy

1. Dave, K.S. *The social philosophy of Bhagvad Geeta.* Saurashtra. Dr. H M. Joshi.

2. Prasannakumari, S. *Pessimism in Indian philosophy : A critical study.* Calicut. Dr. V.C. Narayana Das, Head, Department of Philosophy, University of Calicut, Calicut.

3. Thorat, Surosh Kamaji. *Mansik sampratyayon sambandhi adhunik darshanik vishleshanon ka samalochanatmak adhyayan.* Nagpur, Prof. N.S. Dravid, Ex-Head, Department of Philosophy, Nagpur University, Nagpur.

Fine Arts

Music

1. Ramaswamy, Sakuntala. *Percussion instruments of South India : A study.* Delhi.

Laaguage & Literature

English

1. Jesudasan, Jenimah Maragatham. *Cleanth Brooks as a critic.* Madurai.

2. Ramteke, Shankar Ramji. *Society and the individual in the novels of R.K. Narayan : A study in interaction.* Nagpur, Dr. K R. Kanadey, Department of English, Nagpur University, Nagpur.

3. Sankarakumar, A. *Absurd drama with reference to the plays of Harold Pinter.* Madurai.

4. Xavier, N.M. *Legacy of touchstone method in criticism.* Devi Ahilya. Dr. R.C. Ojha, Indore Christian College, Indore.

Sanskrit

1. Chaturvedi, Chandra. *Kalidas aur Ashwaghosh ke dar shnik siddanton ka tulnatmak adhyayan.* Durgawati, Dr. J P. Shukla, Prof. and Head, Department of Philosopy, Rani Durgawati Vishwavidyalaya, Jabalpur.

2. Madhavan, K.T. *Vasumanavikrama of Damodara Bhatt : A critical study and edition.* Calicut, Dr K.N. Neelakandan Eleyat, Reader, Department of Sanskrit, University of Calicut, Calicut.

3. Ramanuja Charya, V. *A study of the three commentaries of Sridhara Veera Raghava and Vijaya Dhvaja on tenth and eleventh Skandhas of Bhagavata.* Osmania.

4. Sharma, Viwanatha S. *Life and works of kavya kantha Gangapathi Muni.* Osmania.

5. Vijayan, V.K. *Kavyamimansa of Rajasekhara : A critical study.* Calicut. Dr. K.N. Neelakandan Elayat, Reader, Department of Sanskrit, University of Calicut, Calicut.

Punjabi

1. Guriqbal Singh. *Jujhar Punjabi kavita da alochanatmak adhyayan.* Panjab.

2. Hakam Singh. *Shri Guru Granth Sahib wich bhagat bani dee visheshta.* Panjab.

Hindi

1. Bajpai, Abha. *Nirmal Verma ka sahitya : Ek adhyayan.* HS Gour. Prof. K.K. Jain, Head, Department of Hindi, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

2. Chouksey, Chhaya. *Muktibodh ka gadya sahitya : Ek adhyayan.* HS Gour. Prof. K.K. Jain, Head, Department of Hindi, Dr. Harisingh Gour Vishwavidyalaya, Sagar.

3. Gupta, Parasmani. *Amritlal Nagar ke katha sahitya ke nari patra : Ek vishleshnatmak adhyayan.* Devi Ahilya. Dr. D. K. Chauhan, Department of Hindi, Govt Arts and Commerce College, Indore.

4. Jasvinder Kaur. *Ashtchhap ke kavion ke kavya mein ras ka swaroop.* Panjab.

5. Mary George, K. *A comparative study of the dramas of Sri Upendranath Ashk and Srikantan Nair.* Bangalore, Dr. M. Vimala, Department of Hindi, Bangalore University, Bangalore.

6. Nandikesan Nair, V. *A critical evaluation of Hindi vyakaran of Kamaprasad Guru in the light of modern linguistic researches.* Calicut. Dr. G. Gopinathan, Prof., Department of Hindi, Calicut University, Calicut.

7. Singhal, Ram Dhari. *Bhakti kaleen Hindi kavya mein manav mulya : Ek manovaigyanik sarvekshan.* Jammu. Dr. Sansar Chandra.

Urdu

1. Mohammad Sonaullah. *Urdu mein tarikhi novel nigari aghaz-o-irtiqa.* Amravati. Dr. Mohammad Sadullah, Line Pura, Jalgaon, Jamod, Distt, Buldhana.

Bengali

1. Rudra, Susil Kumar. *Bangla kavya adhunikater bihar tan : 1850-1890.* Calcutta.

Oriya

1. Mohanty, Aparna. *The women characters in Oriya fiction 1920-1965.* Utkal.

Marathi

1. Tantarpale, Sudam Sakharam. *Maharashtra-teel dalit chakvak va Marathi dalit kavita.* Amravati. Dr. Sushila B. Patil, Vidarbha Mahavidyalaya, Amravati.

Manipuri

1. Nalini Devi, Hadbam. *Influence of Hinduism on medieval Manipuri literature.* Manipur. Prof. I.R. Babu Singh, Department of Manipuri Language and Literature, Manipur University, Imphal.

Gujarati

1. Bhatt, D.N. *Lyrical poetry of Nhanalal.* Bhavnagar. Dr. I.R. Dave

Persian

1. Arab, Kaneez Ayesha. *Dara Shikoh : Life, works and thoughts.* Nagpar. Dr. Abdur Rab Irfan, Department of Urdu and Persian. Institute of Arts and Social Sciences, Nagpur.

Tamil

1. Ponnammal, T. M. *Tolkappiyarin meyppatiyalum Bharathrin Natya Sasthramum or ayuu.* Madurai.

Gondi

1. Maheshwar Rao, G. Uma. *A comparative study of the Gondi dialects with special reference to phonology and morphology.* Osmania.

Telugu

1. Bala Subbaiah, T. *Racha kanyaka parinayamu samagra pariseelanamu.* Osmania.

2. Jagannadha Naidu. Yendava. *A study of the literature related to the history and legend of the Battle of Bobbili with special reference to the Ballad of Peddada Mallesam.* Andhra.

3. Jaiveer Raju, C.V. *Telugu lo rutukovyalu.* Osmania.

4. Jnaneswari, Boggavarapu Satya. *Telugu folk literature of the Godavari District.* Delhi.

5. Surya Prakash Rao, P. V. *Bhagavatamu pai Bhagavadgita prabhavamu.* Osmania.

Geography

1. Dave, Manjula B. *City size and the levels of development in Gujarat.* Gujarat. Dr. K.M. Kulkarni.

2. Kadarmandalgi, Shridhar Gadigeppa. *Agricultural geography of rice in Karnataka.* Karnatak. Dr. M. F. Karennavar, Administrator, Karnatak University Post Graduate Campus, Lingaraj College Compound, Belgaum.

3. Mandal, Hrishikes. *Human adaptation in the Malwa Region : A study of habitat, economy and society.* Calcutta.

4. Panda, Girish Chandra. *Geomorphology and agricultural land use capability classification around Mawsynram Region of Meghalaya.* NEHU. Prof. R.K. Rai, Head, Department of Geography, North Eastern Hill University, Shillong.

History

1. Biswas, Krishna. *Sculptrual art of Vanga and Samatata, 700 A.D. 1200 A.D.* Calcutta.

2. Dwivedi, Shivakant. *Life as depicted in the sculptures of ancient Bhumija temples of Malwa.* Bhopal. Dr. Rahman Ali, Reader, Department of Ancient Indian History, Culture and Archaeology, Vikram University, Ujjain.

3. Mohammed Koya. S.M. *Muslims of Malabar with special reference to their distinctive character.* Calicut. Dr. T. K. Ravindran, Vice-Chancellor, University of Calicut, Calicut.

4. Mukhopadhyay, Arunprasad. *Some aspects of crime and public order in Bengal, 1861-1912.* Calcutta.

5. Ray, Tapti. *Bundelkhand in 1857 : A study in the politics of a popular uprising.* Calcutta.

6. Saxena, Madhubala. *Chhatarpur ke mandiron mein bhitti chitra.* Bhopal. Late Dr. V.S. Wakankar.

The Yashavantrao Chavan Institute of Science, Satara, the First Science Institute of Rayat Shikshan Sanstha, Congratulates Association of Indian Universities and appreciates their gesture of bringing out **Special Number** on Karmaveer Bhaurao Patil, the great Social Reformer and Educationist of Maharashtra

S. D. Patil
PRINCIPAL

Yashavantrao Chavan Institute of Science
SATARA

Arts & Commerce College, Pandavnagar,
Pune 411 016

Est. 1983

No. of Students : 608

Shri B.N. Shinde
PRINCIPAL

Sree Chitra Tirunal Institute for Medical Sciences & Technology

TRIVANDRUM-695 011

(AN INSTITUTE OF NATIONAL IMPORTANCE)

ADMISSION NOTICE

POST-DOCTORAL PROGRAMMES : ACADEMIC SESSION COMMENCING FEBRUARY, 1989

Qualified Indian nationals desirous of seeking admission to the various postdoctoral programmes commencing on February 1, 1989 are invited to apply in the prescribed form (non-transferable) which can be had of the Institute on request accompanied by a Bank Demand Draft of value of Rs.10/- drawn in favour of SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY, TRIVANDRUM. The request should clearly state the name of the candidates, the programme to which admission is sought and the particulars of demand draft number, branch, bank and date of issue).

Programmes Offered

3 year DM Cardiology (3 seats), DM Neurology and M.Ch. Cardiovascular Thoracic Surgery (2 seats each)

3 year and 5 year (less 1 year) M.Ch Neurosurgery with 2 seats in all.

1 year postdoctoral certificate in (a) Cardiovascular & Neurosurgical Anaesthesia; and (b) Cardiovascular & Neuro Radiology with 4 and 2 seats respectively.

Minimum Educational qualification for Entry

3 Year DM Programmes : MD in General Medicine or Paediatrics

Note : Candidates with MD in psychiatry with a minimum of six months residency posting in General Medicine and Neurology during the said course can apply for DM (Neurology).

3 Year M.Ch. Programmes : MS in General Surgery

5 Year M.Ch. (Neurosurgery) Programme : MBBS degree and one year post registration house surgeoncy/residency in general surgery from a University/PG Institute/Teaching hospital recognised by the Institute. Candidates selected under this provision will be entitled to one year exemption. Candidates without one year experience in general surgery (as mentioned above) need not apply.

Postdoctoral Certificate in Anaesthesiology/Radiology

MD/MS degree in Anaesthesiology/Diagnostic Radiology :

Note : All the aforesaid qualifications should have been obtained from an Indian University recognised by the Institute or from the National Board of examinations or from the other board recognised by the Institute.

Only those who satisfy the minimum qualifications prescribed are advised to apply for admission. Those who expect to qualify before the date of selection may forward their application by the closing date prescribed. However, they will not be called for the selection test unless evidence of having obtained the necessary qualification is produced latest by 26th December 1988. Candidates with more than two failures in the University or equivalent examinations are not eligible fora dmission.

Admission to the programmes will be based on the candidate's previous academic record and their performance in the selection tests to be held at the Institute on 6th and 7th January, 1989.

Reservation exists for SC/ST candidates as per rules of the Institute. Suitability for admission (against reserved seats) will be assessed independently of others. In case of non-availability of suitable SC/ST candidates the seats reserved will be diverted to general category.

Those selected will be paid fixed scholarship per month. The value will be Rs. 3100/- (MD/MS degree holders) and Rs. 2575/- for 5 year programme candidates during the first year.

Closing Dates

Last date for issue of forms by post : **24th October 1988**

Last date for receipt of completed form at the Institute (alongwith non-refundable registration fee of Rs. 30/-) : **7th November 1988**

The applications received beyond the last dates are liable to be rejected.

The details of qualifications, selection procedure, reservation, sponsorship, scholarship and general conditions will be as given in the Prospectus for the year 1989.

DIRECTOR

Post Graduate Institute of Medical Education & Research

CHANDIGARH

ADMISSION NOTICE NO. 4/88 (Acad.)

Closing Date for the receipt of Applications is 10th Oct., 1988.

Applications on prescribed form are invited for the following postgraduate/post-doctoral courses etc. for the academic session starting from First January, 1989 :—

1. First year Junior Residents (52) for M.D./M.S. courses in the following subjects :

(a) Clinical Group : 39

Anaesthesia (5), Dermatology (3), ENT (3), Medicine (6), Obst. & Oynac. (4) Paediatrics (3), Psychiatry (1). Ophthalmology (3), Orthopaedic Surgery (1), Radio-Diagnosis (2), and Surgery (8).

(b) Para-clinical Group : 13

Microbiology (3), Pathology (6) and Pharmacology (4)

(i) those completing their internship after 31-12-88 are not eligible.

(ii) Candidates can apply for a maximum of two subjects in clinical group. They can apply for all subjects in para cilinical group. Only one application, however, needs to be submitted and the choice of subjects may be mentioned in the relevant column of the application. Application fee is Rs. 30/- per subject.

(iii) 22½% of seats in each of the above mentioned groups are reserved for candidates belonging to Scheduled Castes/Tribes. In addition, 5% seats are reserved for candidates who have served or are serving or have carried on private practice in rural areas for a minimum of two years.

(iv) A limited number of sponsored/deputed candidates may also be accepted for the courses mentioned above as also for M.D. (Radiotherapy) course.

II. enior Residents : 17 (for D.M./M. Ch. Courses) in the following subjects :

D.M.		M.Ch.	
Cardiology	—3	Neuro—Surgery	—1
Clinical Pharmacoloy	—2	Plastic Surgery	—3
Endocrinology	—1	Cardiovascular & Thoracic Surgery	—2
Gastroenterology	—2	Urology	—2
Nephrology	—1		

(i) The post in Nephrology and one post in Plastic Surgery are reserved for candidates belonging to Scheduled Castes/Tribes.

(ii) A limited number (1—2) of sponsored/deputed candidates may also be accepted in all the subjects (except Neuro—Survey & Urology) mentioned above as also for DM course in Neurology.

(iii) Upper age limit on 1-1-89—Not more than 35 years and 40 years for candidates belonging to Scheduled Castes/Tribes and for ex-servicemen and commissioned officers including E.C.O./S.S.C.Os., who have been released on satisfactory completion of assignment (including those whose assignment is due to be completed within 6 months). No upper age limit restriction for deputed/sponsored candidates.

(iv) Candidates due to appear in MD/MS examinations during November/December, 1988 can also apply. They will be admitted to the entrance test only if they supply the result of their examination from the University concerned before the entrance test.

III. Ph. D. Programme

Vacancies exist in the following departments :

Biochemisty, Biophysics, Cardiology, Endocrinology, Experimental Medicine, ENT, Gastroenterology. Hepatology, Immunopathology, Internal Medicine, Medical Microbiology, Neurology, Paediatrics, Parasitology, Pharmacology, Psychiatry including clinical psychology, Radio-therapy and Virology.

IV. Second year Junior Resident-1 for M.D.S. Part-1 course in the specially of Pedodontia and Preventive Dentistry.

V. Diploma in Blood Transfusion and immunohaematology.

VI. M.Sc. Medical Technology (Pathology) with Cytology of Haematology or Immunopathology or Morbid Anatomy as a special subject.

VII. M.Sc. Medical Technology (Microbiology) with Bacteriology or Parasitology or Virology as a special subject.
VIII. M.Sc. Medical Technology (Pharmacology and Physiology).
IX. M.Sc. Medical Technology (Radiology) with Radio-diagnosis or Radio-therapy as a special subject.
X. Certificate course in Critical Care Medicine.
XI. M.Sc. (Pharmacology)
XII. First Year Junior Residents : 3 for the Department of Dentistry for a period of 6 months. One post reserved for Sch. Castes/Tribes. Those who have already completed or will complete First Year Juior Residency or House Job for one year by 31-1-1989 are not eligible.

General Information

1. Candidates other than those belonging to Sch. Castes/Tribes having more than one failure during MBBS (for category 1) and BDS (for categories IV and XII) course are not eligible. Sch. Castes/Tribes candidates with upto two failures in their MBBS/BDS career will be eligible.

2. Those applying for the reserved seats must append, with their applications, a certificate from the District Magistrate concerned in support of their claim. No other certificate will be entertained.

3. For courses at categories V to IX above only sponsored/deputed candidates will be considered for admission.

4. The courses at categories IV and V are under the Panjab University.

5. The number of vacancies indicated in categories I, II, IV and XII is provisional and is subject to change without prior notice.

6. The application must be accompanied with non-refundable fee of Rs. 30/- in the form of postal order drawn in favour of the Director for each of the courses mentioned above. A candidate applying for more than one subject/course is required to submit separate application, complete in all respects for each subject/course, except for category No. 1.

7. Application form and detailed information are available from the office of the undersigned either personally on payment of Rs. 5 - at the counter from 11 AM to 12 Noon and 3 PM to 4 PM on all working days except saturdays or by post for which the request must be accompanied with a self-addressed envelope (size 23 × 10 cms) bearing postage stamps of Rs. 3.40 and crossed postal order for Rs. 5/- drawn in favour of the Director.

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REGISTRAR

Indian Institute of Education's Centre for Educational Studies

128 2, J.P. Naik Path, Off Karve Road, Kothrud
PUNE-411 029

Applications are invited from students/teachers for admission to Ph.D. Course in Education (Inter-disciplinary) of the University of Poona for which one doctoral fellowship and for one salary protected fellowship of the ICSSR are available.

Persons holding Master's degree of a statutory university with minimum 55% marks either in Education or in any of the Social Sciences, with M. Phil. degree either in Education or in any one of the Social Sciences are eligible.

The candidate for ICSSR doctoral fellowship should be below thirty years (relaxable by 5 years for SC/ST candidates). The value of the fellowship is Rs. 1000 p.m. during first two years and Rs. 1200 p.m. during subsequent two years of the course.

Only confirmed employee possessing above-mentioned qualifications and below 35 years of age out of the following categories will be selected for salary protected fellowship : (i) Teachers of Senior Colleges of Arts, Science or Colleges of Education (ii) Members of Professional staff in Research Institute and (iii) Eligible people with Govt. persons desiring to apply for admission should do so through their employers. The value of fellowship will be equal to his/her pay and allowances. The tenure of salary protected fellowship is four years. Prescribed application forms can be had from the Registrar. Last date of submission of filled-in applications form is **30th September, 1988.**

DIRECTOR

CLASSIFIED ADVERTISEMENTS

INDIRA KALA SANGIT VISHWAVIDYALAYA

KHAIRAGARH (M.P.)

No. A.S./Dev./88

Dated : September 5, 1988

APPLICATIONS are invited for the following posts in the University Teaching Departments, viz., A. LIBRARIAN, B READERS : Three, one each for Kathak Dance, English and Violin, C. MATRON : for Girls Hostel. Scales of Pay: LIBRARIAN Rs. 1500-60-1800-100-2000-125-2500/- READERS: 1200-50-1300-60-1900/- (pre-revised scale), MATRON : 500/- (fixed pay). Qualifications for Librarian, Readers are as prescribed by the University Grants Commission. Details of qualifications may be obtained from Registrar. Posts are permanent and carry CPF benefits and DA/ADA at University rates from time to time. Appointee will be on probation according to University Rules. Retirement age 60 years. Reservation for posts for SC/ST will be according to Government rules. If candidates are not available or not found suitable, posts will be filled up from general categories. Prescribed application forms (in six copies) and other details may be obtained from the Registrar sending self-addressed stamped envelope of Rs. 3/- of 25 × 12 cms—Application fee Rs. 20/- for Librarian, Readers and Rs. 5/- for Matron in the form of IPO. Last date for receipt of applications in six copies is **10th October, 1988**. The University reserves the right to keep vacant any of the advertised posts without assigning any reason. Candidates called for interview will be required to come at their own cost—Candidates who are in service must apply through proper chamel.

Note : Those who have already applied for the post of Reader in Violin vide advertisement No. RD/88/5172, dated 24th May, 1988, need not apply again.

M.K. Gangajaliwale
REGISTRAR

THE UNIVERSITY OF BURDWAN

RAJBATI, BURDWAN

WEST BENGAL

Advertisement No. 6/88-89

Dated : September 6, 1988

Applications in the prescribed form are invited for the following posts in the revised scales of pay viz. Professor-Rs. 4500-150-5700-200-7300/- ; Reader—Rs. 3700-125-4950-150-5700/- and Lecturer Rs. 2200-75-2800-100-4000/- Plus dearness and other admissible allowances and pensionary benefits according to the University Rules.

A.	Professorship in Sociology	... One post
B.	Professorship in Political Science	... One post
C.	Readership in Sanskrit	... One post
D.	Readership in History	... One post
E.	Readership in English	... One post
F.	Readership in Bengali	... One post
G.	Lecturership in Sociology	... Two posts

Minimum Qualifications

For Professorship

An eminent scholar with published work of high quality, actively engaged in research. About ten years' experience of teaching and/or research. Experience of guiding research at doctoral level.

Or

An outstanding scholar with established reputation who has made significant contribution to knowledge.

For Readership

Good academic record with a doctoral degree or equivalent published work. Evidence of being actively engaged in (i) research or (ii) innovation in teaching methods or (iii) production of teaching materials.

At least five year's experience of teaching and/or research provided that at least three of these years were as Lecturer or in an equivalent position.

This condition may be relaxed in the case of candidates with outstanding record of Teaching/Research.

For Lecturership

(a) A Doctor's Degree or research work of an equally high standard, and

(b) Good academic record with at least Second Class (C in the seven point scale) Master's Degree in a relevant subject from an Indian University or an equivalent degree from a foreign University.

Having regard to the need for developing inter-disciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's Degree or equivalent research work is not available or is not considered suitable, a person possessing a good academic record (weighatage being given to M.Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years on the condition that he will have to obtain a Doctor's Degree or give evidence of research of high standard within eight years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Desirable Qualifications : Specialisation or Proficiency

For A : Any branch of the subject.

For B : Any branch of the subject.

For C : Any branch of the subject.

For D : Any branch of the subject.

For E : Comparative Literature with knowledge of Ancient Classics or Modern Criticism or 16th and 17th Century Literature.

For F : Modern Bengali Literature.

For G : Any branch of the subject.

Those who do not fulfil the minimum qualifications need not apply.

The choice of the Committee may not necessarily be confined to those who apply formally.

For application form and other particulars please apply to the Registrar, University of Burdwan, Rajbati, Burdwan with a self-addressed stamped (Re. 1 -) envelope (9" x 4").

Last date for submission of application with requisite fee of Rs. 5 - is **September 30, 1988.**

REGISTRAR

TATA INSTITUTE OF SOCIAL SCIENCES

DEONAR, BOMBAY 400 088

Applications are invited for the following posts. The prescribed application form, along with the details of qualifications, experience, etc., prescribed for each post, should be obtained from the above address, either in person, or by post, by sending an application for the same, along with a stamped (Rs. 2.00) self-addressed envelope superscribed "Request for Application Form for Teaching posts".

I. **Lecturers** (Two posts) in the pay scale of Rs. 2200-75-2800-100-4000 + D.A. and other allowances. **One post in the Department of Criminology and Correctional Administration,** having **M.A. degree in Social Work with either specialisation in Criminology and Correctional Administration or M.A. degree in Social Work in a generic programme with field work or work experience in this field. Persons additionally having a law degree in Criminal law will be preferred. The post is reserved for SC candidates.** In case suitable SC candidates are not available, the post will be treated as de-reserved and applicants from general categories will be considered for permanent appointment. **One post in the Research Unit for Family Studies,** having M.A. degree in **Social Work** (with specialisation/ field work experience in the area of the family)/**Sociology** (with special papers or Research Work in the areas of the family)/**Home Science** (with specialisation in family studies). **The post is reserved for SC candidates.** In case suitable SC candidates are not available, applicants from other categories may be considered for appointment on a temporary basis for a period of six months, extendable to another six months beyond which, if no SC candidate applies, the person in the general category may be placed on probation provided that the Selection Committee finds him her suitable for appointment against the de-reserved post.

II. **Assistant Managing Editor** (One post) in the pay scale of Rs. 2200-75-2800-100-4000 + D.A. and other allowances having M.A. degree in English language and literature **or** M.A. degree in Journalism and B.A. degree in English language and literature or M.A. degree in Social Sciences and qualifications in Journalism publications or experience in a publishing company. Those with M. Phil./Ph.D preferred.

The Last Date for receipt of filled in application is **3-10-1988.**

N. Krishnamoorthy
REGISTRAR

REGIONAL RESEARCH LABORATORY

JAMMU

(Council of Scientific and Industrial Research)

Advertisement No. : 3/88

Applications are invited on the prescribed form of the following posts in Regional Research Laboratory, Jammu/Srinagar :

1. **Scientists 'C'** : Four Posts
Rs. 3000-100-3500-125-4500

(i) **Qualification & experience** : Ist class M.Sc. Biochemistry/Microbiology/ any of the Biosciences with 6 years research experience/Ph.D. in same subjects with 2 years research experience in recombinant DNA technology. **Job requirement** : Genetic Engineering Programme of this Institute at present is mainly in the areas of microbial gene manipulation for hyperproduction of industrially important drugs and chemicals. The incumbent will have to work in this programme for improvement of the strains of Industrial importance. Experience is relaxable in case of otherwise well qualified candidates.

(ii) **Qualification & experience** : Ist class B.E. in Chemical Engineering/ Biochemical Engineering with 6 years research experience in the areas of fermentation technology or M.E. with 4 years experience/Ph.D. in Biochemical Engineering / Chemical Engineering with 2 years research experience in fermentation process. **Desirable** : The candidate should have experience of handling computerised fermentation equipment for data aquisition, analysis and control. Experience in software development for fermentation control would be preferred. **Job requirement** : Candidate is required to be involved in the process developments in fermentation and scale up studies and development of software. Experience relaxable in case of otherwise well qualified candidate.

(iii) **Qualification & experience** : Ist class B.E./B.Tech in Computer Science with 6 years experience or M.E. Computer Science with 4 years experience or Ph.D. with 2 years research experience. **Job requirement** : To develop software for various scientific programmes for the laboratory.

(iv) **Qualification & experience** : Ist class B.E./B.Tech in Electronics with 6 years research experience or M.E. Electronics with 4 years research experience/Ph.D. in Electronics with 2 years research experience. **Job requirement** : To take care of modern electronics instruments like Electron Microscope, FT-NMR, GCMS, Computers, Microprocessors equipment etc. Selected candidate will also have to collaborate in development of various technologies where Microprocessors

can be used. Experience relaxable in case of otherwise well qualified candidate.

2. Scientist 'B' : One Post
Rs. 2200-75-2800-EB-100-4000
(Reserved for SC)

Qualification & experience : 1st class M.Sc. in *Organic Chemistry* with 4 years research experience in chemistry of natural products/Ph.D. in Chemistry with 2 years research experience. The candidate should be proficient in isolation, structural elucidation of naturally occurring alkaloids. He should be conversant with latest instrumental and physical methods. **Job requirement:** To engage in isolation, structural elucidation of Biologically active compounds. **The post is reserved for Scheduled Caste candidate. General candidates can also apply, in case no Scheduled Caste candidate is found suitable the post would be filled by General candidate.**

3. Technical Assistants Gr. VIII
—7 Posts

Rs. 1400-40-1800-EB-50-2300
(Reserved for SC—5)
(Reserved for ST—2)

Qualification & experience: B.Sc. with *Chemistry* and Biology with 4 years experience OR Three years Diploma in Electronics / Computers with 2 years relevant experience.

4. Nurse Female : 1 Post
Rs. 1400-40-1800-EB-50-2300

Qualification & experience : 3 years General Nursing Diploma plus one year Midwifery Diploma from reputed Institutes with 2 years experience OR B.Sc. Nursing. *Job requirement* : To assist the Medical Officer in RRL Dispensary in day to day work. The selected candidate will be placed in Group II of the CSIR under New Recruitment and Assessment Scheme.

5. Technician Gr. II : Panel

Rs. 950-20-1150-EB-25-1400
(Reserved for SC —1)
(Reserved for Deaf—1)

Qualification & experience : Matriculation/ITI Certificate in Library Science with 2 years laboratory experience. The candidates are required to work as assistants in various sections like **Entomology, Computers, Instrumentation, Arts, Library, Chemistry, Botany, Biology** and **Food** at Jammu or at Branch Laboratory, Srinagar.

All the above posts are temporary and carry usual allowances as admissible under the Central Government rules. Higher initial start may be given to deserving candidates.

Selected candidates can be posted anywhere in Jammu or Srinagar.

Since it is not possible to call all the candidates for interview, the applications will be shortlisted for the purpose and the decision of a duly constituted Screening Committee of the Institute will be final in this regard.

Application form can be had (free of cost) from the Administrative Officer, Regional Research Laboratory, Canal Road, Jammu Tawi upto 3-10-1988. Separate application should be submitted for each post. Number of advertisement, name of post applied for and full address in BLOCK LETTERS must be indicated at the top of the request which should be sent together with a self-addressed envelope of 22 cm × 10 cm for obtaining application form.

No Application fee is prescribed for Scheduled Caste/Tribe Candidates and also for Technician post mentioned at Sr. No. 5.

Completed application on the prescribed form together with non-refundable application fee of Rs. 8/- from General candidates (for the posts of Scientists 'C', 'B' and Nurse Female) in the form of Crossed Indian Postal Orders drawn in favour of the **Administrative Officer, Regional Research Laboratory, Canal Road, Jammu Tawi** alongwith attested copies of the certificates/testimonials relating to educational qualifications, date of birth, experience and original community certificate in respect of Scheduled Caste/Tribe and Medical certificate in respect of Deaf from the appropriate authorities should reach him on or before **17-10-1988. The applications received after this date and/or incomplete are liable to be rejected and no interim enquiries will be entertained.**

Applications from employees working in Government departments, Public Sector Undertakings and Govt. funded research agencies will be considered only if forwarded through proper channel and with a clear certificate that the applicant will be relieved within one month on receipt of appointment order.

CANVASSING IN ANY FORM AND/OR BRINGING ANY INFLUENCE POLITICAL OR OTHERWISE WILL BE TREATED AS A DISQUALIFICATION FOR THE POST.

BHAVNAGAR UNIVERSITY

BHAVNAGAR

Notification No 6/88

The following positions in this University are likely to be created on receipt of UGC sanction.

1. **Professor** : Physics, Marine Science, Commerce and Hindi.

2. **Reader** : Physics, Marine Science, Commerce, Gujarati, History, Sociology, Psychology and Statistics.

3. **Lecturer** : Physics, Marine Science, Hindi, Gujarati, History, Sociology, Statistics and English.

Qualifications required as prescribed by UGC Applications in seven copies accompanied by crossed postal order of Rs. 25/- drawn in favour of Registrar, Bhavnagar University, Bhavnagar-364002 are invited in the following format so as to reach before **30th September, 1988.**

APPLICATION FORMAT

1. Full name of the applicant; 2. Residential address; 3. Address for correspondence; 4. Date of birth; 5. Whether a member of Scheduled Caste/Tribe; 6. Educational qualifications; 7. Experience about service; 8. Information about Post-graduate teaching.

R.S. Mehta
REGISTRAR

Rayat Shikshan Sanstha's

Dhananjayrao Gadgil College of Commerce

SATARA-415001

(Department of Business Education & Research)

(Affiliated to Shivaji University, Kolhapur)

Dhananjayrao Gadgil College of Commerce, Satara, has been running the Two Year Course in Master of Business Administration (M.B.A.) since 1981-82 and one year Diploma Course in Business Management (D.B.M.) since 1973-74.

ELIGIBILITY FOR ADMISSION

(1) **M.B.A.** A bachelor's Degree with minimum Second Class in the faculty of Arts, Commerce, Science, Engineering, Social Sciences or Agriculture of a statutory University.

(2) **D.B.M.** Graduate of any statutory University with one year experience at the Junior Executive Level or Diploma (3 years duration) in Engineering awarded and recognised by the Maharashtra Technical Board can only apply.

PROCEDURE FOR M.B.A. ADMISSION

The admission for M.B.A. Course will be confirmed following the declaration of results of Entrance Examination and personal interviews conducted by the Shivaji University, Kolhapur. The dates for Entrance Examination, group-discussion and Personal Interviews are usually declared some time in June/July every year.

PROCEDURE FOR D.B.M. ADMISSION

The admission for D.B.M. Course will be confirmed after the selection & personal interviews conducted by the Shivaji University, Kolhapur. The date of Personal Interviews is usually declared in June/July every year.

PROSPECTUS

(1) **M.B.A.** Application form and Prospectus are available from the college on payment of Rs. 30/- in cash or by sending Rs. 40/- by D.D./I.P.O./M.O/in favour of Principal, Dhananjayrao Gadgil College of Commerce, Satara.

(2) **D.B.M.** Application form and Prospectus are available form the college on payment of Rs. 25/- in cash or by sending Rs. 35/- by D.D./I.P.O./M.O./in favour of Principal, Dhananjayrao Gadgil College of Commerce, Satara.

M.M. Swami
For PRINCIPAL

KARMAVEER BHAURAO PATIL
Memorial at Satara

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